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ABSTRACT

Americans have been exposed to increased levels of mass violence during the past decade. School violence, shootings in the workplace, and terrorist acts both here and abroad--all have affected individuals, families, communities, and our country. This report addresses the urgent need to evaluate the various psychological interventions that are increasingly among the first responses to these traumatic events. At a workshop held from October 30 to November 1, 2001, 58 disaster mental health experts from six countries were invited to address the impact of early psychological interventions and to identify what works, what doesn't work, and what the gaps are in our knowledge. Prior to the workshop, leading mental health research clinicians from the United States, Australia, and the United Kingdom prepared a review of the published, peer-reviewed literature (references appear in Appendix I). The report emphasizes that although more research is needed, existing data, including studies of other kinds of traumatic events, as well as clinical experience, provide useful guidance to the mental health community in responding to mass violence. The report is targeted to those who deliver psychological interventions to emotionally distressed persons following mass violence, to those who research these issues, and to employers who want to help workers who have experienced this type of emotional trauma. (Contains 146 references, 10 tables, and 9 appendixes.) (GCP)

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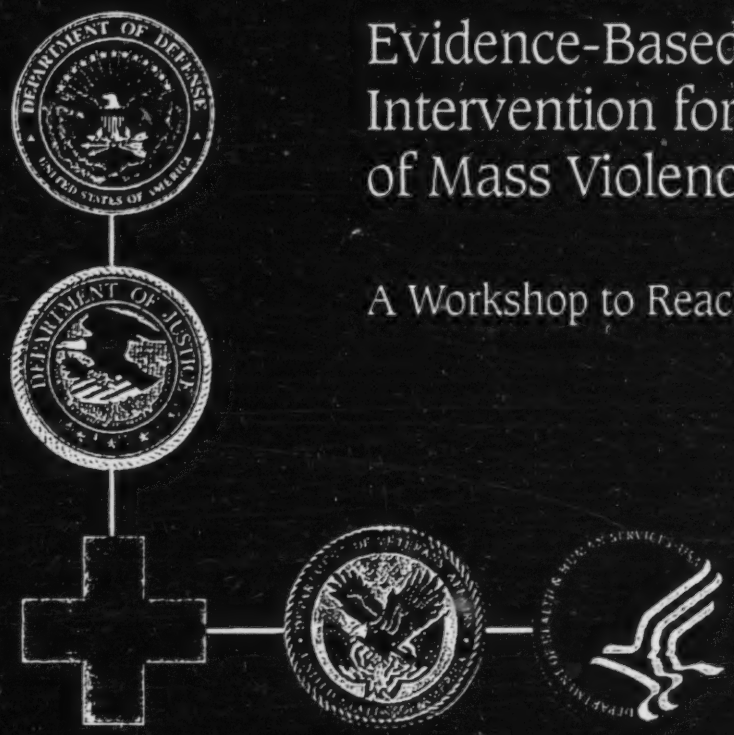
Mental Health and Mass Violence

Evidence-Based Early Psychological Intervention for Victims/Survivors of Mass Violence

A Workshop to Reach Consensus on Best Practices



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Mental Health and Mass Violence

Evidence-Based Early Psychological Intervention for Victims/Survivors of Mass Violence

A Workshop to Reach Consensus on Best Practices

U.S. Department of Health and Human Services
U.S. Department of Defense
U.S. Department of Veterans Affairs
U.S. Department of Justice
American Red Cross

Airlie Conference Center
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Executive Summary

Americans have been exposed to increased levels of mass violence during the past decade. School violence, shootings in the workplace, and terrorist acts both here and abroad—all have affected individuals, families, communities, and our country. This report addresses the urgent need to evaluate the various psychological interventions that are increasingly among the first responses to these traumatic events.

At a workshop held from October 30 to November 1, 2001, 58 disaster mental health experts from six countries were invited to address the impact of early psychological interventions and to identify what works, what doesn't work, and what the gaps are in our knowledge. Prior to the workshop, leading mental health research clinicians from the United States, Australia, and the United Kingdom prepared a review of the published, peer-reviewed literature (tables appear in Appendix G and references appear in Appendix I).

For the purpose of this workshop and report, an early intervention is defined as any form of psychological intervention delivered within the first four weeks following mass violence or disasters. Once established, services may remain in place for the long term. Mental health personnel will provide some of the components of early intervention, while other components have mental health implications but will be provided by non-mental health personnel.

Workshop participants examined research on critical issues related to the following questions:

- What early interventions can be recommended in mass violence situations?
- What should the key operating principles be?
- What are the issues of timing of early intervention?
- What is appropriate screening?
- What is appropriate follow-up, for whom, over what period of time?
- What expertise, skills, and training are necessary for early interventions, at what level of sophistication?
- What is the role of research and evaluation?
- What are the ethical issues involved in early interventions?
- What are the key questions for the field of early intervention that have not yet been thoroughly researched?

There was general majority consensus among participants on many points. Where significant differences in opinion existed, participants were invited to provide minority opinions (see Appendix F). Some of those issues have been reframed as research or ethical questions that can benefit from further scientific inquiry and discourse (see pp. 11-12).

Area of Consensus

Key Operating Principles of Early Intervention

Workshop participants identified key components of early psychological interventions as including preparation, planning, education, training, and service provision evaluation. It is essential that these components be operationalized and used for service delivery, research, education, and consultation activities. Participants also indicated

that early mental health assessment and intervention should focus on a hierarchy of needs, e.g., survival, safety, food, shelter, etc. (see Appendix A).

Conference participants agreed that:

- A sensible working principle in the immediate post-incident phase is to expect normal recovery;
- Presuming clinically significant disorder in the early post-incident phase is inappropriate, except when there is a preexisting condition;
- Participation of survivors of mass violence in early intervention sessions, whether administered to a group or individually, should be voluntary.
- The term "debriefing" should be used only to describe operational debriefings (see Appendix D). Although operational debriefings can be described as "early interventions," they are done primarily for reasons other than preventing or reducing mental disorders.

Guidance on Best Practice Based on Current Research Evidence

Thoughtfully designed and carefully executed randomized controlled trials have a critical role in establishing best practices. There are, however, few randomized controlled trials of psychological interventions following mass violence. Existing randomized controlled trial data, often from studies of other types of traumatic events, suggest that:

- Early, brief, and focused psychotherapeutic intervention can reduce distress in bereaved spouses, parents, and children.
- Selected cognitive behavioral approaches may help reduce incidence, duration and severity of acute stress disorder, post-traumatic stress disorder, and depression in survivors.
- Early interventions in the form of single one-on-one recitals of events and emotions evoked by a traumatic event do not consistently reduce risks of later post-traumatic stress disorder or related adjustment difficulties.
- There is no evidence that eye movement desensitization and reprocessing (EMDR) as an early mental health intervention, following mass violence and disasters, is a treatment of choice over other approaches.

Other practices that may have captured public interest have not been proven effective, and some may do harm.

Key Considerations for Timing of Early Interventions

Early interventions should be delivered as needed in a manner acceptable to survivors and in keeping with best available practice. Acknowledging the need for more research, participants identified various types of early interventions and guidance on timing for their delivery (see Appendix B).

Screening for Survivors

Effective early intervention following mass violence can be facilitated by careful screening and needs assessment for individuals, groups, and populations. Screening programs for trauma-related problems should conform to Institute of Medicine or similar standards for safety and efficacy (http://books.nap.edu/books/0309068371/html/index.html or http://www.quic.gov/report/toc.htm).

Follow-Up (for Whom and Over What Period of Time?)

Follow-up should be offered to individuals and groups at high risk of developing adjustment difficulties following exposure to mass violence, including those:

- Who have acute stress disorder or other clinically significant symptoms stemming from the trauma;
- Who are bereaved;
- Who have a preexisting psychiatric disorder;
- Who require medical or surgical attention; and
- Whose exposure to the incident is particularly intense and of long duration.

Many trauma survivors experience some symptoms in the immediate aftermath of a traumatic event. These symptoms are not necessarily cause for long-term follow-up, since most eventually remit. In general, survivors who manifest no symptoms for approximately two months following exposure to mass violence do not require routine follow-up. If they request long-term follow-up, however, it should be provided.

Precise recommendations as to when follow-up should occur are impossible owing to the number of significant variables involved.

Expertise, Skills, and Training for Providers of Early Intervention Services

Individuals who provide early mental health interventions or consultations need to make appropriate referrals when additional expertise is needed. Certain interventions—mass education via media outlets, psychological triage (see Appendices A and D), leadership consultations, and interventions that rely on detailed recall of traumatic experiences—have a high potential for unintended harm. The leadership should select professionals who have the high degree of training, expertise, accountability, and responsibility required to provide these interventions.

Although the topic was not specifically addressed at the workshop, the planners have outlined a sample training program for the early intervention workforce (see Appendix E). Organizations that provide training should subject themselves to quality assurance programs.

Research and Evaluation

The scientific community must develop a national strategy to examine the relative effectiveness of early interventions following mass violence. This strategy must be carried out by trained research clinicians and have adequate resources for systematic data collection and evaluation before, during, and after incidents of mass violence.

Ethical Issues

There is an ethical duty to conduct scientifically valid research to improve assessment, early intervention, and treatment of persons exposed to mass violence.

Early intervention policies should be based on empirically defensible and evidence-based practices.

The use of ineffective or unsafe techniques should be discouraged.

The Institute of Medicine, in collaboration with the Office of Human Research Protections, is encouraged to develop a strategy for educating the broader research community (including Institutional Review Boards) about these issues.

Key Questions to Address Within the Field of Early Intervention

Workshop participants identified key questions requiring further inquiry and discourse, including questions related to the design of intervention studies, the impact of commonly used interventions for victims/survivors and first responders, the development and use of standard terminology, procedures and content of informed consent, and unresolved ethical issues.

Implications

The guidance provided in the Mental Health and Mass Violence Workshop report has wide-ranging implications for funding, research, emergency planning, clinical practice, training, and procedures. It is therefore recommended that the report be fully reviewed by those officials who must decide what mental health help to support and to include in the local, state, and national responses to survivors of mass violence and terrorism.

Disclaimer

Views expressed in this report represent only those of the workshop participants and should not be construed to represent views of any of the sponsoring organizations, agencies, or of any government.

The planning committee is most grateful to the sponsoring organizations that supported this forum.

Mental Health and Mass Violence

Evidence-Based Early Psychological Intervention for Victims/Survivors of Mass Violence

A Workshop to Reach Consensus on Best Practices

Introduction

Americans have been exposed to increased levels of mass violence and terrorism during the past decade. School violence, terrorist acts both here and abroad, mass shootings in the workplace—all have affected individuals, families, communities, and our country. There is an urgent need to evaluate the various forms of early psychological intervention that are increasingly offered as part of the first response to these traumatic events. The U.S. Departments of Defense, Justice, Health and Human Services (National Institute of Mental Health), Veterans Affairs (including the National Center for PTSD), and the American Red Cross joined together from October 30 through November 1, 2001, outside Washington, D.C., to examine the evidence associated with these interventions and attempt to identify what we know is effective, what is not, and what questions require further research.

The workshop was planned long before the tragic events of September 11, 2001. Those events heightened the importance of the work accomplished. We recognized that alone, reviews of the literature on early psychological interventions could not serve as a vehicle for the transmission of informed guidance due to the scarcity of data. We therefore chose the consensus process, combining what is known from research and expert opinion as a way to examine the evidence in this field and provide guidance.

For the purpose of this workshop and report, an early intervention is defined as any form of psychological intervention delivered within the first four weeks following mass violence or disasters. Once established, services may remain in place for the long term. Mental health personnel will provide some of the components of early intervention, while other components that have mental health implications will be provided by non-mental health personnel.

Implications

Our goal was to make this document of value to the variety of people who deliver help to emotionally distressed persons following exposure to mass violence. We also hope that this document will be

useful to those who research these issues and to employers who want to help workers who have experienced emotional trauma. Guidance provided in this report has wide-ranging implications for funding, research, emergency planning, clinical practices, training, and procedures. It is, therefore, recommended that this report be fully reviewed by those officials who must decide what mental health help to support and to include in local, state, and national responses to victims/survivors of mass violence and terrorism.

Core Questions

Based on the available empirical literature and expert opinion, the meeting participants addressed the following core questions:

- What should the key operating principles be?
  - What should be done and why?
  - What should not be done and why?
  - What is the range of options for action in different circumstances?
- What current good practice would be recommended as a set of early interventions in mass violence situations?
- What are the issues of timing of early intervention?
- What is the role of screening?
- What follow-up, for whom, and over what period of time is recommended?
- What expertise, skills, and training are recommended for early interventions and at what level of sophistication?
- What is the role of research and evaluation?
- What are the ethical issues involved in early interventions?
- What are the key questions for the field of early intervention that have not yet been thoroughly researched?

There was general majority consensus among participants on many points. Where significant differences in opinion existed, participants were invited to provide minority opinions (see Appendix F). Some of those issues have been reframed as research or ethical questions that can benefit from further scientific inquiry and discourse (see pp. 11-12).

Areas of Consensus

Key Operating Principles of Early Intervention

Key components of early interventions include preparation, planning, education, training, service provision, and evaluation of efforts to assist those affected by mass violence and disasters.

A sensible working principle in the immediate post-incident phase is to expect normal recovery. The presumption of clinically significant disorders in the early post-incident phase is inappropriate, except for individuals with preexisting conditions.

Mental health personnel have key roles to play when integrated into mass violence or disaster management teams. These personnel can help coordinate service provision so that mental health is an integrated element of comprehensive disaster management plans. Mental health expertise can guide the implementation of interventions to maximize a positive mental health outcome for those affected by mass violence.

Optimal efforts to conduct early mental health assessment and intervention should recognize and be conducted within a hierarchy of needs, e.g.:

- Survival
- Safety
- Security
- Food
- Shelter
- Health (both physical and mental)

- Triage (mental health triage for emergencies)
- Orientation (orienting survivors to immediate local services)
- Communication with family, friends, and community
- Other forms of psychological first aid.

Key aspects of early intervention include the following:

- Psychological first aid
- Needs assessment
- Monitoring the recovery environment
- Outreach and information dissemination
- Technical assistance, consultation, and training
- Fostering resilience, coping, and recovery (i.e., facilitating natural support networks)
- Triage
- Treatment.

(See Appendix A for a description of each type of early intervention.)

Good practice in early intervention also takes into account the special needs of those who have experienced enduring mental health problems, those who are disabled, and other high-risk groups who may be vulnerable and less able to cope with unfolding situations.

Interventions are most likely to be helpful when they are tailored to address individual, community, and cultural needs and characteristics.

Early interventions should typically seek to address diverse outcomes, including normal recovery, resiliency, and personal growth, as well as collective outcomes such as social order and community/unit cohesion.

Adverse outcomes to be targeted by early interventions may include acute stress disorder (ASD), post-traumatic stress disorder (PTSD), depression, complicated bereavement reactions, substance use disorders, poor physical health, fear, anxiety, physiological arousal, somatization, anger control, functional disability, and arrest or regression of childhood developmental progression.

It is essential that the specific components of early intervention be identified, operationalized, and used for service delivery, research, education, and consultation activities. See Appendix A for a description of key components of early intervention.

Use of the term "debriefing" for a variety of mental health interventions is misleading. Workshop participants recommended that this stand-alone term no longer be used to describe early mental health interventions following mass violence and disasters. For clarity, "debriefing" should be used only to describe operational debriefing,[1] and should not be used to describe psychological debriefing, critical incident stress debriefing (CISD), and so on.

Participation of victims/survivors of mass violence in early intervention sessions, whether administered as group or individual support, should be voluntary.

Guidance on Best Practices Based on Current Research Evidence

Few randomized controlled trials (RCTs[2]) have been

[1] Operational debriefing is a routine, individual, or group review of the details of an event, from a factual perspective, for the purposes of (1) learning what actually happened for the historical record or planning process; (2) improving future results in similar missions; and (3) increasing the readiness of those being debriefed for further action. Operational debriefings are conducted by leaders or specialized debriefers according to the organization's standard operating procedure.

[2] RCTs are a type of experimental research involving comparison of a group that receives the study intervention with a group that receives other care or no intervention. Participants are randomly assigned to one of these groups and may be matched for key demographic characteristics. This study design permits researchers to assess cause-and-effect relationships and can be used to determine intervention effectiveness.

conducted that establish the distinct outcomes that can be achieved for survivor populations through early intervention following mass violence and disasters. Thoughtfully designed and carefully executed randomized controlled trials have a critical role in establishing parameters for best practices.

There is limited Level 1[3] evidence to definitively confirm or refute the effectiveness of any early psychological intervention following mass violence and disasters. The current evidence, often drawing on other types of traumatic events, permits the following conclusions:

- There is some Level 1 evidence for the effectiveness of early, brief, and focused psychotherapeutic intervention (provided on an individual or a group basis) for reducing distress in bereaved spouses, parents, and children.
- There is some Level 1 evidence that selected cognitive behavioral approaches may help reduce incidence, duration, and severity of ASD, PTSD, and depression in trauma survivors (e.g., victims of accidents, rape, and crime).
- There is some Level 1 evidence suggesting that early intervention in the form of a single one-on-one recital of events and expression of emotions evoked by a traumatic event (as advocated in some forms of psychological debriefing) does not consistently reduce risks of later developing PTSD or related adjustment difficulties. Some survivors (e.g., those with high arousal) may be put at heightened risk for adverse outcomes as a result of such early interventions.
- There is no evidence that eye movement desensitization and reprocessing (EMDR) as an early mental health intervention following mass violence and disasters is a treatment of choice over other approaches.

Key Considerations for Timing of Early Interventions

Early interventions should be delivered as needed, in an acceptable manner, and in keeping with best available expertise. Little research evidence (particularly Level 1) has been published regarding the optimal timing for early interventions.

Data should be collected through systematic research and evaluation so that the timing of early interventions can be informed by reports published and scrutinized in the public domain.
In view of the current lack of specific research data on optimal timing of early interventions, workshop participants developed a guidance table (see Appendix B) that describes, among other elements, various types of early interventions and the timing believed to be most appropriate for their delivery. As new evidence is published, this guidance can be revised and extended to include goals of each intervention, their uses with specific populations and types of disaster, as well as the most appropriate systems to be put in place for their delivery.

Screening for Survivors

Screening and needs assessments for individuals, groups, and populations are important for the provision of informed early interventions following mass violence and disasters.

Specific screening methodologies used for individuals or groups considered to be at high risk for chronic PTSD and other serious mental health outcomes following mass violence and disasters should be evaluated to ensure that their use is both safe and effective.

[3] The Agency for Health Care Policy and Research (AHCPR) has defined a system of classification for levels of evidence in scientific trials. In the statements below, Level 1 evidence, which is considered "the gold standard," refers to randomized, well-controlled clinical trials.

Screening programs for trauma-related problems should conform to Institute of Medicine (IOM) or similar standards for safety and efficacy (http://books.nap.edu/books/0309068371/html/index.html or http://www.quic.gov/report/toc.htm).

Follow-Up (For Whom and Over What Period of Time?)

Follow-up should be offered to individuals and groups at high risk of developing adjustment difficulties following exposure to mass violence and disasters. These individuals and groups include those:

- Who have ASD or other clinically significant symptoms stemming from the trauma;
- Who are bereaved;
- Who have a preexisting psychiatric disorder;
- Who have required medical or surgical attention; and
- Whose exposure to the event is known to have been particularly intense and of long duration.

Many survivors experience some symptoms in the immediate aftermath of a traumatic event. These symptoms are not necessarily cause for long-term follow-up because, in most cases, they will eventually remit. Survivors of traumatic events who do not manifest symptoms after approximately two months generally do not require follow-up. However, they should receive follow-up if they request it.

Precise statements regarding exactly when follow-up should occur in each individual case are not possible because of the many significant variables that inform clinical recommendations for early intervention.

Expertise, Skills and Training for Providers of Early Intervention Services

Individuals who provide early mental health interventions or consultations should remain within the scope of their expertise and education, making appropriate referrals when additional expertise is needed.

Individuals who provide early interventions or consultations should be sanctioned by, and operate within, the structure responsible for coordinating mass violence and disaster response. This structure should include quality assurance reviews to make sure that helpers have proper documentation to certify their training credentials as well as the appropriate expertise and experience.

Providers of early interventions that have the highest potential for unintended harm should be selected according to their degree of training, expertise, accountability, and responsibility. These early interventions include mass education via media outlets, psychological triage (see Appendices A and D), leadership consultations, and interventions that rely on detailed recall of traumatic experiences.

Mental health professionals—and others sanctioned to provide early interventions—should avail themselves of high-quality, empirically defensible training that confers competence in specific interventions and strategies for responding to mass violence and disasters. Organizations with experience and expertise in providing such responses should collaborate to provide this training.

Early interventions are usually provided with limited resources in an atmosphere of chaos, environmental pollution, and the possibility of continued threats. To be effective, training should incorporate content that addresses the organizational, procedural, emotional, and environmental aspects of this operational reality.

Additionally, specialist education, training, and certification programs should be developed so they

can be sanctioned or validated by appropriate professional bodies and organizations. This will ensure quality standards that are in the interest of service users and providers as well as the organizations that employ such staff. See Appendix E for guidance on training components.

Research and Evaluation

Research and program evaluations are critically important components in advancing our understanding of, and ability to provide, effective early interventions.

The scientific community has an obligation to examine the relative effectiveness of early interventions that seek to reduce adverse outcomes and foster positive adaptations following mass violence and disasters. A national strategy should be developed to ensure that adequate resources are available for systematic data collection, evaluation, and research to be carried out before, during, and after mass violence and disasters.

When the optimal forms of intervention are unknown, there is an ethical duty to conduct scientifically valid research to improve prevention, assessment, intervention, and treatment.

Efforts and initiatives to document and describe what is done, by whom, and to what end are currently inadequate and can be misleading. Mass violence and disaster plans should involve experts in research and evaluation when considering the best methods available for systematic data collection, evaluation, and research at each stage of planning and response.

These systematic evaluation activities should be planned and carried out in conjunction with identified bodies that are responsible for organizing and delivering early interventions following mass violence and disasters.

Efforts should be made to facilitate collaboration among federal, state, and local authorities responsible for funding, planning, delivering, and assessing the impact of early interventions to facilitate systematic data collection, evaluation, and research in this field.

A standard taxonomy (categorization) and terminology need to be developed for program evaluations and research protocols. A standard taxonomy will help identify and operationalize the following:

- The potentially most significant psychological and biological variables to monitor in the wake of mass violence or disasters.
- The post-event physical and psychosocial (recovery) environment.
- Subgroups of the affected population, including responders.
- Mental health interventions that are provided.
- The characteristics of those deemed the most appropriate providers of early interventions.

As noted under ethical issues, a strategy should be developed for informing the broader research community, including Institutional Review Boards (IRBs), of the necessity to conduct rigorous research on sensitive topics.

Research should be conducted to determine which elements of early interventions are most helpful.

Given the unplanned nature of mass violence and disaster situations, as well as the logistical difficulties of carrying out systematic data collection in these situations, investigations into early interventions following mass violence and disasters may require new mechanisms for proposing and funding this type of research.

Ethical Issues

Workshop participants agreed that there is an ethical duty to conduct scientifically valid research to improve prevention, assessment, early intervention, and treatment in order to enhance outcomes achieved by early interventions.

The Institute of Medicine (IOM), in collaboration with the Office of Human Research Protections (OHRP), should be encouraged to develop a strategy for educating the broader research community (including IRBs) about the ethical necessity of conducting rigorous research on sensitive topics related to mass violence and trauma. Ideally, this strategy will encompass guidance on determining what types of research are appropriate and when, given the existing knowledge base on early interventions.

Early intervention policies should be based on empirically defensible and evidence-based practices. An ethical duty exists to discourage the use of ineffective or unsafe techniques.

Key Questions to Address Within the Field of Early Intervention

What is the demonstrable impact of public education initiatives on levels of knowledge, attitudes, and behaviors among those who have to live with endemic stress associated with ongoing threats to safety and security?

Does "just-in-time" training[4] for first responders reduce the risk of adverse mental health outcomes?

How feasible are RCTs with existing and novel early interventions (not placebo controls) involving high-risk traumatized cohorts? How acceptable would they be to potential research subjects?

To what extent can creative, naturalistic experimental designs be used to examine the relative benefits of existing early interventions?

To develop a standard taxonomy and terminology for early intervention to use in evaluations and research protocols, the following questions require additional attention:

- How should the taxonomy be structured so that it can be expanded to include new variables as they are discovered?
- How should the taxonomy be distributed through multiple authorities and agencies to care providers as well as to researchers?
- How should the use of the taxonomy be monitored in the review process to ensure consistency for efficient automated data processing and meta-analysis across many program evaluations and for controlled studies over many years of data collection and follow-up?
- Which entity (governmental, professional, etc.) might be the executive agent for overseeing, adding to, and disseminating the taxonomy?

Is screening during the first few weeks following mass violence and disaster (often involving education on biopsychosocial reactions) in itself an effective intervention for reducing the risk of new onset or exacerbation of preexisting psychopathology?

Can screening harm some individuals exposed to trauma? If so, what is the nature and extent of such harm (i.e., the risk of the screening being used for purposes not intended by the investigators)? Is the risk of such harm offset by the risk of failing to use screening instruments to identify those at high risk for negative outcomes?

What information should be included in statements made to trauma survivors from whom informed consent is being sought to participate in screening,

[4] Just-in-time training refers to training provided on site for responders during a major incident or disaster.

early intervention, follow-up, and treatment research?

What is best practice for seeking informed consent for acute interventions following mass violence? Do occasions arise (e.g., education on biopsychosocial reactions) when obtaining consent can induce negative effects?

What are the ethical issues involved in false positives in screenings?

Is it acceptable to screen for conditions if care is not provided or readily accessible?

Guidance on ethical issues relating to research on mental health interventions following mass violence should be formed to assist IRBs in evaluating these protocols. This guidance should also identify bodies and organizations that can serve as resources for IRBs and others evaluating research protocols.

What are the distinct ethical implications for Level I and Level II studies in the wake of mass violence interventions?

What ethical issues are introduced by the widespread use of unproven interventions?

How does one balance clinical demand to provide an intervention with the inadequacies in the empirical evidence-based knowledge of effective early interventions for trauma?

What ethical issues arise from the shifts in professional boundaries (professional setting, physical and psychological objectivity with the client, etc.) in the context of early interventions?

How should helpers, such as first responders and emergency staff, be guided to identify their own mental health needs? What are the implications of participation in mandatory group or individual interventions.

How should organizations that use operational debriefing train their personnel to avoid unintentional psychological harm and to identify individuals who need mental health follow-up?

How can the scientific community encourage and assist such organizations to collaborate in scientific follow-up of potential long-term behavioral/mental outcomes of the operational debriefing policies and other critical incident management interventions they use?

Appendix A: Key Components of Early Intervention

The following is a description of the key components of early intervention. Some of these components would be provided by mental health professionals while other components with mental health implications would be delivered by service providers other than mental health professionals.

Basic Needs

- Provide survival, safety, and security.
- Provide food and shelter.
- Orient survivors to the availability of services/support.
- Communicate with family, friends, and community.
- Assess the environment for ongoing threats.

Psychological First Aid

- Protect survivors from further harm.
- Reduce physiological arousal.
- Mobilize support for those who are most distressed.
- Keep families together and facilitate reunions with loved ones.
- Provide information and foster communication and education.
- Use effective risk communication techniques.

Needs Assessment

- Assess the current status of individuals, groups, and/or populations and institutions/systems. Ask how well needs are being addressed, what the recovery environment offers, and what additional interventions are needed.

Rescue and Recovery Environment Observation

- Observe and listen to those most affected.
- Monitor the environment for toxins and stressors.
- Monitor past and ongoing threats.
- Monitor services that are being provided.
- Monitor media coverage and rumors.

Outreach and Information Dissemination

- Offer information/education and "therapy by walking around."
- Use established community structures.
- Distribute flyers.
- Host Web sites.
- Conduct media interviews and programs and distribute media releases.

Technical Assistance, Consultation, and Training

- Improve capacity of organizations and caregivers to provide what is needed to
  - reestablish community structure,
  - foster family recovery and resilience, and
  - safeguard the community.
- Provide assistance, consultation, and training to relevant organizations, other caregivers and responders, and leaders.

Fostering Resilience and Recovery

- Foster but do not force social interactions.
- Provide coping skills training.
- Provide risk assessment skills training.
- Provide education on stress responses, traumatic reminders, coping, normal versus abnormal functioning, risk factors, and services.
- Offer group and family interventions.
- Foster natural social supports.
- Look after the bereaved.
- Repair the organizational fabric.

Triage

- Conduct clinical assessments, using valid and reliable methods.
- Refer when indicated.
- Identify vulnerable, high-risk individuals and groups.
- Provide for emergency hospitalization.

Treatment

- Reduce or ameliorate symptoms or improve functioning via
  - individual, family, and group psychotherapy,
  - pharmacotherapy, and
  - short- or long-term hospitalization.

Appendix B:
Guidance for Timing of Early Interventions

Phase	Pre-incident	Impact (0–48 hours)	Rescue (0–1 week)	Recovery (1–4 weeks)	Return to Life (2 weeks–2 years)
Goals	Preparation, improve coping	Survival, communication	Adjustment	Appraisal/ Planning	Reintegration
Behavior	Preparation vs. denial	Fight/flight, freeze, surrender, etc.	Resilience vs. exhaustion	Grief, reappraisal, intrusive memories, narrative formation	Adjustment vs. phobias, PTSD, avoidance, depression, etc.
Role of All Helpers	Prepare, train, gain knowledge	Rescue, protect	Orient, provide for needs	Respond with sensitivity	Continue assistance
Role of Mental Health Professionals	**Prepare** Train Gain knowledge Collaborate Inform and influence policy Set structures for rapid assistance	**Basic Needs>** Establish safety/ security/survival Ensure food and shelter Provide orientation Facilitate communication with family, friends and community Assess the environment for ongoing threat/ toxin **Psychological First Aid>** Support and "presence" for those who are most distressed Keep families together and facilitate reunion with loved ones Provide information and education (i.e., services), foster communication Protect survivors from further harm Reduce physiological arousal	**Needs Assessment>** Assess current status, how well needs are being addressed Recovery environment What additional interventions are needed for • Group • Population • Individual **Triage>** Clinical assessment Refer when indicated Identify vulnerable, high-risk individuals and groups Emergency hospitalization or outpatient treatment **Outreach and Information Dissemination>** Make contact with and identify people who have not requested services (i.e., "therapy by walking around")	**Monitor the Recovery Environment>** Observe and listen to those most affected Monitor the environment for toxins Monitor past and ongoing threats Monitor services that are being provided	**Treatment** Reduce or ameliorate symptoms or improve functioning via • Individual, family and group psychotherapy • Pharmacotherapy • Short-term or long-term hospitalization

Role of Mental Health Professionals (continued)		**Monitoring the Impact on Environment>** Observe and listen to those most affected Monitor the environment for stressors **Technical Assistance, Consultation and Training>** Improve capacity of organizations and caregivers to provide what is needed to reestablish community structure, foster family recovery/ resilience, and safeguard the community Provide to • relevent organizations • other caregivers and responders • leaders	**Outreach and Information Dissemination>** Inform people about different services, coping, recovery process, etc. (e.g., by using established community structures, fliers, Web sites) **Fostering Resilience and Recovery>** Social interactions Coping skills training Education about stress response, traumatic reminders, coping, normal vs. abnormal functioning, risk factors, services Group and family support Foster natural social support Look after the bereaved Repair organizational fabric Operational debriefings, when this is standing procedure in responder organizations Spiritual support		

Appendix C:
Resource Organizations

American Association of Marriage and Family Therapy (AAMFT). The professional association for the field of marriage and family therapy that represents the professional interests of more than 23,000 marriage and family therapists in the United States, Canada, and abroad. Founded in 1942, AAMFT aims to increase understanding, research, and education in the field of marriage and family therapy. The organization conducts a national exam for marriage and family therapists used for licensure in most states. http://www.aamft.org/

American Psychiatric Association. Founded in 1844, the American Psychiatric Association is the world's largest psychiatric organization. It represents over 38,000 psychiatric physicians from the United States and around the world. Members specialize in the diagnosis and treatment of mental and emotional illnesses and substance use disorders. http://www.psych.org/

American Psychological Association (APA). A scientific and professional organization that represents psychology in the United States. With more than 155,000 members, it is the largest association of psychologists worldwide. Founded in 1892, it aims to advance psychology as a science and profession and as a means of promoting human welfare by promoting research, establishing and maintaining standards, and diffusing knowledge. In 1991, APA established the Disaster Response Network (DRN) to work collaboratively with the American Red Cross and other relief organizations to provide licensed psychologists on site to aid disaster victims and relief workers. More than 2,000 psychologists have received required disaster response training and are DRN members. http://www.apa.org/

American Red Cross (ARC). An independent, tax-exempt charitable organization granted a charter by the U.S. Congress in 1905 to carry on a system of national and international relief to mitigate suffering caused by pestilence, famine, fire, floods, and other national calamities. In 1998, the organization was composed of over 1,336,000 volunteers. http://www.redcross.org/

American Red Cross Disaster Services. A division of the American Red Cross that focuses on meeting people's immediate emergency disaster-caused needs, such as shelter, food, and health and mental health services. This division also feeds emergency workers, handles inquiries from concerned family members outside the disaster area, provides blood and blood products to disaster victims, and helps those affected to access other resources. http://www.redcross.org/services/disaster

American Red Cross Disaster Services Human Resources System (DSHR). Through a network of approximately 3,000 local chapters and Red Cross units supported by regional offices and a national headquarters, the Red Cross provides a nationwide program of disaster preparedness and relief. DSHR is the American Red Cross national personnel inventory that tracks individual disaster workers. From this system, volunteers are recruited to respond to major disasters. To become a DSHR Disaster Mental Health Services member, licensed mental health professionals must meet specific training requirements and be available for a minimum 12-day operational assignment.

American Red Cross Shelter Services. Provides temporary services for displaced survivors. In general, ARC shelters open within 24 hours of impact and close after two to three weeks. On-site services include support for survivors and shelter staff. Services provided by ARC, are in

coordination with local volunteers working under the auspices of county mental health professionals.

Catastrophic Disaster Response Group (CDRG). A component of the emergency response of the Federal Emergency Management Agency (FEMA), CDRG is composed of representatives of all departments and agencies participating in the Federal Response Plan. CDRG provides guidance and policy direction. http://www.fema.gov/rrr/frp/frpconc.shtm

Center for Mental Health Services (CMHS). A component of SAMSHA, PHS, DHHS. CMHS is charged with leading the national system that delivers mental health services and administers programs and funding for assisting people with mental illness with treatment, employment, housing, and transportation. CMHS was established under the 1992 ADAMHA Reorganization Act. The Emergency Services and Disaster Relief Branch (defined below) is housed within CMHS. http://www.mentalhealth.org/cmhs

Children's Advocacy Centers. Established by the Office of Juvenile Justice and Delinquency to assist communities in improving their response to child abuse. The Centers provide information, consultation, training, and technical assistance; help to establish child-focused programs; and support coordination among agencies responding to child abuse. http://www.nncac.org/rcac

Department of Defense (DoD). Cabinet-level agency of the U.S. government formed in 1947 to subsume three earlier military departments whose primary missions were to train and equip their personnel to perform war fighting, peacekeeping, and humanitarian/disaster assistance tasks. In the Federal Response Plan (FRP), DoD is the lead agency for emergency support function 3, public works and engineering (primarily through the U.S. Army Corps of Engineers). DoD also plays a supporting role for all 12 functions, including mass care and health/medical services. In consequence management, DoD supports FEMA through technical chemical-biological reconnaissance and assessments, providing equipment, technical expertise, and links to other interagency organizations with identified capabilities. After disasters, DoD makes additional assets available as local capabilities are exhausted, may provide other assets to secure the area, and may help to evacuate areas at risk. http://www.defenselink.mil/

Department of Health and Human Services (DHHS). The U.S. government's principal agency for protecting the health of all Americans, and providing essential human services, especially for those who are least able to help themselves. The department's 300 programs cover a wide spectrum of activities and purposes, from medical and social science research, disease prevention, and food and drug safety to health insurance for elderly, disabled, and low-income Americans and maternal and infant health. In the Federal response plan, DHHS is the lead agency responsible for carrying out emergency support function 8 (health and medical care) and plays a supporting role in mass care and information and planning. http://www.dhhs.gov. Medical Response in Emergencies: HHS's Role http://www.hhs.gov/news/press/2001pres/01fsemergencyresponse.html

Department of Justice (DOJ). Cabinet-level agency of the U.S. government responsible for enforcing the law; providing protection against criminals; ensuring healthy competition of business; safeguarding the consumer; and enforcing drug, immigration, and naturalization laws. In the Federal Response Plan, DOJ is a supporting agency for three emergency support functions: health and medical, search and rescue,

and hazardous materials. DOJ houses the Office for Victims of Crime. http://www.usdoj.gov/

Department of Veterans Affairs (VA). Cabinet-level agency of the U.S. government charged with providing benefits and services to veterans and their dependents. The VA health care system provides a broad spectrum of medical, surgical, and rehabilitative care and also houses the National Center for Post-Traumatic Stress Disorder, Readjustment Counseling Service, and the Emergency Mental Strategic Health Care Group. In FRP, the VA plays a supporting role for four emergency functions: public works, mass care, resource support, and health and medical services. www.va.gov/about_va/history

Emergency Information and Coordination Center. A center in Washington, D.C., that in 1999 was renamed the National Interagency Operations Center. It is the location from which FEMA coordinates efforts of federal, state, and local agencies. http://www.fema.gov/rrr/frp/frpconc.shtm

Emergency Services and Disaster Relief Branch. A branch of the Center for Mental Health Services that is responsible for meeting the mental health needs of disaster survivors and responders. The branch works in collaboration with FEMA to implement the Crisis Counseling Assistance and Training Program when a state has applied for a CCP grant after a federally declared disaster. The grants may be for immediate services, which support services for 60 days past the declaration date, or for regular services, which support services for 9 to 15 months past the declaration date. http://www.mentalhealth.org/publications/allpubs/KEN95-0011/default.asp Disaster Mental Health http://www.mentalhealth.org/cmhs/EmergencyServices/default.asp

Federal Emergency Management Agency (FEMA). An independent agency of the U.S. government that was founded in 1979. FEMA's mission is to reduce loss of life and property and protect the nation's infrastructure from hazards through a comprehensive program of mitigation, preparedness, response, and recovery. http://www.fema.gov/about

International Critical Incident Stress Foundation. A nonprofit, open-membership foundation dedicated to preventing and mitigating disabling stress through the provision of education, training, and support services for all emergency services professions, including continuing education and training in emergency mental health services for psychologists, psychiatrists, social workers, and licensed professional counselors and consultation in the establishment of crisis and disaster response programs for varied organizations and communities worldwide. http://www.icisf.org/

International Society for Traumatic Stress Studies (ISTSS). A membership society providing a forum for sharing research, clinical strategies, public policy concerns, and theoretical formulations on trauma in the United States and around the world. Members of ISTSS include psychiatrists, psychologists, social workers, nurses, counselors, researchers, administrators, advocates, journalists, clergy, and others with an interest in the study and treatment of traumatic stress. http://www.istss.org/

National Association of Social Workers (NASW). A membership organization that promotes, develops, and protects the practice of social work and social workers. NASW also seeks to enhance the effective functioning and well

being of individuals, families, and communities through its work and its advocacy. http://www.naswdc.org/

National Center for Post-Traumatic Stress Disorder (NCPTSD). A seven-site consortium created by public law. Housed within the Department of Veterans Affairs, the mission of the NCPTSD is to advance the clinical care and social welfare of America's veterans through research, education, and training in the science, diagnosis, and treatment of PTSD and stress-related disorders. As a leading authority on PTSD, NCPTSD serves and collaborates with many different agencies and constituencies, including veterans and their families, government policymakers, scientists and researchers, doctors and psychiatrists, journalists, and the lay public. http://www.ncptsd.org/

National Institute of Mental Health (NIMH). A part of the of the U.S. government's National Institutes of Health, PHS, DHHS, the NIMH is responsible for research on mental health and mental disorders, including research on the mental health consequences of and interventions after disasters and acts of mass violence. http://www.nimh.nih.gov/

National Organization for Victims Assistance (NOVA). A private, nonprofit organization of victim and witness assistance programs and practitioners, criminal justice agencies and professionals, mental health professionals, researchers, former victims and survivors, and others committed to the recognition and implementation of victim rights and services. NOVA's mission is to promote rights and services for victims of crime and crisis. http://www.try-nova.org/

National Voluntary Organizations Active in Disaster (NVOAD). A national organization that coordinates planning efforts of member voluntary organizations responding to disaster. Member organizations meet regularly. When disasters occur, NVOAD or an affiliated state VOAD encourages members and other voluntary agencies to convene on-site to facilitate effective cooperation among volunteers and organizations. www.nvoad.org

Office for Victims of Crime (OVC). A federal agency established by the 1984 Victims of Crime Act to oversee diverse programs that benefit victims of crime. OVC provides substantial funding to state victim assistance and compensation programs, the lifeline services that help victims to heal. The agency supports training designed to educate criminal justice and allied professionals regarding the rights and needs of crime victims. OVC is one of five bureaus and four offices with grant-making authority within the Office of Justice Programs, DOJ. http://www.ojp.usdoj.gov/ovc/

Public Health Service (PHS). A major division of the Department of Health and Human Services, PHS is the principal health agency of the U.S. government. PHS is responsible for promoting and ensuring the nation's health through research into the causes, treatment, and prevention of disease. www.os.dhhs.gov/phs/phs.html

Substance Abuse and Mental Health Services Administration (SAMHSA). The lead mental health services agency of the PHS, DHHS, which includes the Center for Mental Heath Services (CMHS) and the Emergency Services Branch within CMHS. Through these divisions, SAMHSA provides assistance with assessing mental health needs and mental health training for disaster workers. SAMHSA also assists in arranging training for mental health outreach

workers, assesses the content of applications for federal crisis counseling grant funds, and addresses worker stress issues and needs through a variety of mechanisms. http://www.samhsa.gov/

Appendix D:
Glossary of Terms

Acute stress disorder. A condition requiring the presence of serious dissociative, re-experiencing, and arousal symptoms and functional impairment that occurs within one month of exposure to a traumatic stressor and lasts for a minimum of two days and a maximum of four weeks.

Advocacy. The act of protecting and advancing the legal, human, and service rights of people. http://www.advocacyinc.org/

Community-based interventions. Interventions ranging from consultation with disaster and community leadership to encouragement of supportive post-disaster environments, networks of support, information, and ceremonies to facilitate recovery. They may also be focused in particular settings (e.g., workplaces, schools, local government areas, shelter, and accommodation sites).

Community Emergency Response Team (CERT). Citizen teams trained in disaster preparedness and response. The program was originally developed and implemented by the Los Angeles Fire Department in 1985, and it was eventually made available to communities nationwide in partnership with FEMA and the Emergency Management Institute.

Complicated grief. Bereaved individuals with high levels of complicated symptoms have substantially greater dysfunction than those with lower levels of these symptoms. Studies find that complicated grief symptoms (1) form a coherent cluster of symptoms distinct from bereavement-related depressive and anxiety symptom clusters; (2) endure several years for some bereaved subjects; (3) predict substantial morbidity and adverse health behaviors over and above depressive symptoms; and (4) unlike depressive symptoms, are not effectively reduced by interpersonal psychotherapy and/or tricyclic antidepressants. These findings suggest a need to identify and treat complicated grief as a syndrome distinct from major depressive disorder.

Crisis management. In the FEMA response plan, this refers to measures to identify, acquire, and plan the use of resources needed to anticipate, prevent, and/or resolve a threat or act of terrorism. It is predominantly a law enforcement response. http://www.fema.gov/rrr/frp/frpterr.shtm

Critical Incident Stress Debriefing (CISD). Mitchell and Everly (2000) refer to a seven-phase, structured group discussion, usually provided one to ten days post-crisis (three to four weeks after mass disasters) and designed to mitigate acute symptoms, assess the need for follow-up, and, if possible, provide a sense of post-crisis psychological closure. The phases are:

1. Introduction and guidelines for participation
2. Discussion of relevant facts
3. Discussion of thoughts
4. Discussion of reactions/emotions
5. Discussion of emergent symptoms
6. Education about responses and coping strategies
7. Reentry (summarize, discussion of additional resources available)

Critical Incident Stress Management (CISM). An integrated "system" of interventions designed to prevent and/or mitigate the adverse psychological reactions that so often accompany emergency services, public safety, and disaster response functions. CISM interventions are

especially directed toward the mitigation of post-traumatic stress reactions. http://www.icisf.org/

Cross-cultural differences. Variations in the meaning or expression of thoughts, feelings, or behaviors related to ethnic or religious identity or place of origin. Such differences may influence the validity of assessment, response to treatment, and appropriate ways of interacting with survivor populations.

Debriefing. A generic term often used to refer to Critical Incident Stress Debriefing or similar early interventions. Historically, the term first referred to a routine, individual or group review of an event from a factual perspective for the purpose of learning what actually happened. The results were used for the historical record or planning process, to improve future results in similar situations, and to increase readiness of those being operationally debriefed for future action. The term has also been applied to many types of early psychological interventions, but this use of the term alone is not recommended (see also Critical Incident Stress Debriefing).

Defusing. A three-phase, structured, one-to-one or small-group discussion provided within hours of a crisis for purposes of assessment, triage, and acute symptom mitigation.

Disaster. As defined under the Stafford Act, any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought) or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.

Disaster application center. Facility established by FEMA to accept and process applications for federally funded disaster relief assistance following a presidential declaration.

Disaster field office. The primary location in each affected state for the coordination of federal response and recovery operations. Many office buildings are actually used to house comprehensive disaster field "office" operations. http://www.fema.gov/rrr/frp/frpconc.shtm

Disaster Medical Assistance Team (DMAT). One element of the National Disaster Medical System, which is an interagency program that provides the United States with a nationwide medical aid system that may be activated at the request of a governor, a state health officer, or Secretary of Defense. DMATs include mental health personnel. http://oep.osophs.dhhs.gov/dmat

Disaster Welfare Inquiry, American Red Cross. Responsible for responding to inquiries about the location and health and welfare of individuals and families within the disaster area, and for the preparation and distribution of bulletins to non-affected chapters detailing information about the disaster operation.

Disaster Welfare Information, Federal Emergency Management Agency. A component of FEMA's emergency support function 6 (mass care) that aims to report victim status to family members outside of the affected area, and assist in family reunification within the affected area. http://www.fema.gov/rrr/frp/frpesf6.shtm

Disaster recovery center. A centralized location where individuals affected by a disaster

can go to obtain information on disaster recovery assistance programs from various federal, state, and local agencies and voluntary organizations. Trained staff is available to provide counseling and advice. http://www.fema.gov/rrr/frp/frpconc.shtm

Early intervention. The provision of psychological help to victims/survivors within the first month after a critical incident, traumatic event, emergency, or disaster aimed at reducing the severity or duration of event-related distress. For mental health service providers, this may involve psychological first aid, needs assessment, consultation, fostering resilience and natural supports, and triage, as well as psychological and medical treatment.

Emergency. As defined in the Stafford Act, any occasion or instance for which, in the determination of the President, federal assistance is needed to supplement state and local efforts and capabilities to save lives and to protect property, public health, and safety, including emergencies other than natural disasters. http://www.fema.gov/rrr/frp//frpappa.shtm

Emergency response team. The principal interagency group that supports the Federal Coordinating Officer (FCO) in coordinating the overall federal disaster operation. It is located at the disaster field office and ensures that federal resources are made available to meet state requirements specified by the state coordinating officer. Functions include operation, information and planning, logistics, and administration. http://www.fema.gov/rrr/frp/frpconc.shtm

Federal Coordinating Officer (FCO). The person appointed by the director of the FEMA on behalf of the President whose responsibility it is to coordinate the timely delivery of disaster assistance to affected state and local governments and disaster victims. In many cases, the FCO is also the disaster recovery manager, whose responsibility it is to administer financial assistance as designated under the Stafford Act. http://www.fema.gov/rrr/frp//frppol.shtm

Federal response plan. The plan, involving 27 federal agencies, that establishes a process and structure for the systematic, coordinated, and effective delivery of federal assistance to address the consequences of a federally declared disaster or emergency. It describes basic policies, assumptions, concept of operation, response and recovery actions, and the responsibilities of various federal agencies involved in carrying out the plan. www.fema.gov/rrr/frp

Human-made disaster. An event caused by human negligence, error, or intent that has resulted in damage of sufficient severity and magnitude to warrant assistance supplementing state, local, and disaster relief organization efforts to alleviate damage, loss, hardship, or suffering. Human-made disasters include acts of terrorism, large-scale industrial accidents, mass transportation accidents, and civil disturbances. All other things being equal, these disasters are believed to have more serious consequences than natural disasters for survivors' mental health.

Incident command system. A standardized system used by fire and law enforcement to manage emergency operations.

Key informant method. An approach to community mental health needs assessment based on the assumption that certain individuals within a community know it well enough to be able to estimate mental health needs attributable to a disaster and the resources required.

Mass care. American Red Cross's direct service function responsible for providing congregate shelter facilities and fixed mobile food service to

disaster victims and emergency workers in a disaster area. Provides for bulk distribution of supplies and commodities to victims.

National Disaster Medical System (NDMS). A cooperative asset-sharing program among U.S. government agencies (Department of Health and Human Services, Department of Defense, Department of Veterans Affairs, and the Federal Emergency Management Agency); state and local governments; and private businesses and civilian volunteers to ensure that resources are available to provide medical services following a disaster that overwhelms local health care resources. NDMS is a federally coordinated system that augments the nation's emergency medical response capability. Its overall purpose is to establish a single, integrated national medical response capability for assisting state and local authorities in dealing with the medical and health effects of major peacetime disasters and providing support to the military and Veterans Health Administration medical systems in caring for casualties evacuated back to the United States from armed conflicts overseas. www.ndms.dhhs.gov/NDMS/ndms.html

Natural disaster. A geophysical or weather-related event causing damage of sufficient severity and magnitude to warrant assistance supplementing state, local, and disaster relief organization efforts to alleviate damage, loss, hardship, or suffering. Natural disasters include earthquakes, floods, wildfires, volcanoes, tsunamis, typhoons, cyclones, landslides, blizzards, heat waves, and drought.

Operational debriefing. A routine individual or group review of the details of an event from a factual perspective, for the purposes of:

- Learning what actually happened for the historical record or planning process,
- Improving future results in similar missions, and
- Increasing the readiness of those being debriefed for further action.

Operational debriefings are conducted by leaders or specialized debriefers according to the organization's standard operating procedure.

Outreach. Array of disaster mental health services extended to survivors wherever they congregate, designed to increase understanding of common reactions, coping, and when and where to receive more in-depth help. Outreach is recommended because most survivors do not seek out mental health support services following a catastrophic event. See also community-based interventions.

Peri-traumatic stress reactions. Stress symptoms that occur during or immediately after a traumatic experience.

Post-traumatic stress disorder (PTSD). An anxiety disorder (and diagnostic construct used in the *Diagnostic and Statistical Manual of Mental Disorders-IV*) that can develop after exposure to a terrifying event, or ordeal in which grave physical harm occurred or was threatened. The criteria for PTSD require (see DSM-IV for details):

A. Exposure to a traumatic event

B. Reexperiencing of the event

C. Persistent avoidance of stimuli associated with the trauma

D. Persistent increased arousal

E. Duration of B, C, D of more than one month

F. Clinically significant distress or impairment

Research indicates that victims of major disasters are at risk for PTSD, especially if they have been injured or have experienced life threat.

Preparedness plan. The pre-disaster plan for organizational procedures intended for use in the aftermath of disasters. Preparedness plans may include crisis communication procedures for addressing employees, media, and community groups; security procedures to ensure safety of employees and property; procedures to develop or invoke relationships with law enforcement, fire-fighting, emergency medical, and related government agencies; procedures to address and monitor post-traumatic stress; and procedures to manage department or operations shutdowns, employee job reassignments, layoffs, or leaves of absence.

Presidential declaration. A declaration of an emergency or disaster made by the President of the United States authorizing specialized federal funds and assistance to state and local governments after it is determined that disaster-caused needs exceed the resources of state governments.

Primary/direct victims. Generally refers to individuals directly exposed to the elements of a disaster.

Psychological debriefing. Widely used term to describe a variety of structured events, led by a person or team, which include education and review processes with a positive focus on resilience and coping strategies and sometimes detailed review of emotional reactions.[5]

Psychological first aid. Pragmatically oriented interventions with survivors or emergency responders targeting acute stress reactions and immediate needs. The goals of psychological first aid include the establishment of safety (objective and subjective), stress-related symptom reduction, restoration of rest and sleep, linkage to critical resources, and connection to social support.

Public affairs or public information officer. Disaster relief officer who has the responsibility for implementing a system to provide information about services available to disaster victims, provide information to the general public about services, and liaison with all media.

Referral. The process of recommendation and linkage to other service providers.

Risk factors. Empirically validated variables related to risk for long-term adjustment problems (e.g., severity and type of traumatic exposure, injuries, sudden unexpected death of loved one(s), separation from family, previous psychological disorder, age, socioeconomic class, chronic mental illness, residential relocation, severe post-traumatic reactions, degree of resource losses, degree of community resource loss).

Robert T. Stafford Disaster Relief and Emergency Assistance Act. The legislation that provides the authority for the U.S. government to respond to disasters and emergencies by providing assistance to save lives and protect public health, safety, and property. http://www.fema.gov/library/stafact.shtm

Secondary/indirect traumatization. A potential effect of "exposure" to individuals who have been adversely affected by traumatic stressors. It may occur between two or more individuals (e.g., family members, groups of victims), or in the process of helping trauma victims.

Secondary/indirect victims. Generally refers to individuals with close family and personal ties to primary victims.

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[5]Because the term "debriefing" has been overly applied in the media and popular use to many types of early psychological interventions, workshop participants recommend in the Key Operating Principles that the term "debriefing" alone not be used.

Staging area. The designated area of emergency operations serving to process and orient incoming and exiting disaster workers.

State coordinating officer. The person who coordinates the administration of state disaster relief activities with response efforts of the federal government and serves as the counterpart to FEMA's federal coordinating officer.

Stressors. Events or conditions that may cause physiological and behavioral reactions and present coping difficulties for the individual experiencing them.

Stress reaction. The physiological and behavioral responses to stressors, such as fatigue, high blood pressure, anger, and psychological distress.

Support system. Generic term referring to the extent and quality of an individual's social resources.

Traumatic grief. A type of grief that is characterized by suffering the death of a significant person under traumatic circumstances (e.g., accidents, unexpected illness, homicide, suicide, natural and human-made disasters, including experiencing or witnessing the death in the midst of horrific and/or life-threatening circumstances). Recently the term has been used identically with "complicated grief." The basic cluster of grief symptoms (including intrusive thoughts about the deceased, yearning, searching, excessive loneliness, numbness, purposelessness, difficulty acknowledging the death, feeling life as meaningless and empty, shattered worldview, excessive anger and bitterness related to the death) as distinguished from depression and anxiety remain the same as in complicated grief. The likelihood that a person who has suffered loss under traumatic circumstances will develop a complicated grief syndrome may be higher than in the normal grief experiences. The interplay of traumatic events and grief is not yet fully understood.

Traumatic reactivation. The exacerbation of residual stress-related symptoms precipitated by stimuli after the original exposure to a traumatic stressor.

Triage. The process of evaluating and sorting victims by immediacy of treatment needed and directing them to immediate or delayed treatment. The goal of triage is to do the greatest good for the greatest number of victims.

Uncomplicated grief. Normal or uncomplicated grief reactions are those that, though painful, move the survivor toward an acceptance of the loss and an ability to carry on with his or her life. Indicators of normal adjustment include the capacity to feel that life still holds meaning, a sustained sense of self, self-efficacy, trust in others and an ability to reinvest in interpersonal relationships and activities.

Weapons of mass destruction. Human-designed chemical, biological, and explosive mechanisms intended to cause severe and widespread fatalities and environmental damage.

Reference

Mitchell, J.T. and Everly, G.S. (2000). Critical incident stress management and critical incident stress debriefings: Evolutions, effects and outcomes. In: B. Raphael and J.P. Wilson (eds). *Psychological Debriefing: Theory, Practice and Evidence* (pp. 71-90). New York: Cambridge Unversity Press.

Disclaimer: This glossary of terms was developed independently of the workshop. It was added because it has been judged that it would be useful to readers of this report.

Appendix E: Training of the Early Intervention Workforce[6]

Background Considerations

Potential Audiences

Different forms of early intervention require different sets of skills, training, and background knowledge. Mental health practitioners are key professionals in this respect. However, many early intervention and follow-up activities may be delivered to trauma survivors by individuals who are not specifically pretrained in early intervention. These individuals may include:

- Paraprofessionals
- Community volunteers
- Medical professionals, including primary care practitioners, pediatricians, and family practice doctors
- Disaster responders
- Clergy
- School personnel
- Staff of paraprofessional helping organizations such as Alcoholics Anonymous.

Core Training Modules

Much early intervention consists of providing emotional and practical support. Thus, help in reconnecting family or friends and in providing information about services available can be achieved by building on existing communication, listening, and empathy skills, as well as other personal qualities of the helpers.

General training in the mental health aspects of trauma should be delivered not only to mental health professionals involved in providing emergency mental health support but also, as appropriate, to others who will respond to those recently traumatized. (See the above list of potential responders.) It is also important that such training be made available to emergency responders—for example, firefighters, police officers, hospital trauma center personnel, and coroners—to help these groups understand the mental health implications of their work and to foster appropriate competencies.

The need to educate trauma survivors and the communities that provide their recovery environment is widely accepted and should be a part of any training program. There is general agreement that such education should inform survivors about the following:

- The nature of traumatic stress reactions
- Normal reactions to trauma
- Risk factors associated with more serious problems, without creating expectation of chronicity
- Ways of coping with and mastering the effects of mass violence and disasters
- Services available in the aftermath of mass violence and disasters (including mental health counseling)
- Timing and the processes of self-referral for specialist help.

While this kind of educational activity forms a core part of early intervention services, what such education of trauma survivors can realistically achieve is currently unclear.

It is often assumed that mental health workers who have an understanding of disasters and their consequences can pass on this information to survivors and their closest relatives. Because of the physical and psychological state of survivors in the early aftermath of mass violence and disasters, some survivors may find it difficult to learn and remember the content of such information. It is,

[6]Participants in the workshop formulated this guidance; however, it was not voted on by all participants as an area of consensus at the workshop. All participants reviewed this information by e-mail.

therefore, important to train workers to appreciate the importance of both the content and manner of communicating effectively and systematically, as well as to encourage the distribution of written educational information.

Risks

There are potential risks of education efforts that must be carefully addressed, including the following:

- Dispensing erroneous information, current fad, or uninformed opinion as proven fact
- Compounding the social stigmatization of those with more symptoms
- Causing "reverse stigmatization" and guilt (e.g., "If you don't have these symptoms, then there's something bad and unfeeling about you.")
- Using vocabulary and concepts unfamiliar to the specific audience, especially technical terms and jargon that have unintended negative effects (one script does not suit all audiences)
- Over-pathologizing and focusing on therapy and disability compensation, rather than facilitating natural supports and resiliency.

Specialized Modules

Evidence-based specialized interventions that are targeted to those who are at significant risk of developing PTSD and other post-trauma problems, require specialized skills. For example, the cognitive-behavioral early interventions noted above require practitioners to deliver structured training in breathing and relaxation, imaginal and in vivo exposure therapy, and cognitive restructuring skills. The need for specialized skills means that mental health professionals will be the most appropriate group to deliver these interventions.

Two of the best-validated treatment elements for PTSD and depression are direct therapeutic exposure and cognitive restructuring. These interventions are not systematically taught in graduate schools, and it is not wise to assume they can be administered by any mental health professional whose repertoire of skills may not be in keeping with those required for early intervention after mass violence and trauma. Additionally, there are important caveats to delivering these interventions with the bereaved and recently traumatized. This means that specialized training will be necessary to supplement mental health professionals' existing skill and knowledge base.

Other forms of specialized training may be required to assist workers involved in the delivery of interventions to minimize the effects of trauma. This training may include the following:

- Screening and identification of risk factors for chronic post-trauma problems
- Providing support during and after death notification
- Working with traumatized children
- Working with the traumatically bereaved
- Working with special populations such as emergency services workers.

In addition to interventions targeting post-traumatic stress responses, follow-up service providers should be alert to and be trained to identify and intervene with other problems that frequently come to light in the aftermath of trauma, for example, alcohol and substance abuse problems. Patients who might benefit from early intervention to prevent development of PTSD may already have established patterns of substance abuse. Comprehensive care, therefore, requires services to address both sets of problems.

Broadly, the most important and challenging part of follow-up training concerns which interventions should be provided in the aftermath of traumatic events. This decision is especially challenging

because specific skills must be taught and because currently available research literature does not give definitive signposts to identify these interventions. However, early post-trauma interventions are now receiving increased research attention, and relevant evidence should be forthcoming in the next few years. This means that it will be important to design systems for periodically updating and changing the content of early intervention training.

In a recent review of training in mental health response to disaster and community violence, Young, Ruzek, and Pivar (2001) offered a set of recommendations for improvements in training. This training guidance applies to the context of early intervention as well.

Guidance on Basic Content of Training

Response Structures and Processes

- Federal response plan, disaster agencies, and organizational relationships
- Mental health response in the disaster context
- The ethics of disaster mental health and community violence (DMH/CV) response
- What to expect
- Grant application.

Disaster Mental Health Resources

Evidence-based interventions, content and skills, include the following:

- General goals of intervention
- On-scene support and psychological first aid
- Survivor education
- Social support
- Psychological debriefing and defusing
- Environmental interventions
- Pharmacotherapy
- Referral to mental health services
- Community organization and self-help group interventions
- Operational debriefing in responder organizations.

Considerations in Intervention

- Matching of intervention and phase of disaster
- Matching of intervention and setting
- Matching of intervention and survivor

High-Risk Groups

- Identification of those at risk for mental health problems
- Children
- Bereaved survivors
- Elderly survivors
- Survivors with existing mental health problems
- Wounded

Other Areas for Training

- Outreach
- Cultural issues
- Mass media
- Disaster worker stress
- Leading and managing disaster/mass violence mental health
- Nature and effects of disaster and mass violence

Additional Content Guidance

Use Existing Literature for Training

- Link training content (e.g., discussion of acute stress reactions) to existing empirical research.
- Devote more attention to educating workers about research-based risk factors for chronic mental health problems following exposure to disaster or mass violence.
- Train workers to use their awareness of risk factors, as well as formal screening tools, to

select individuals who require referral to more intensive services and energetic follow-up.

- Help workers understand the changed settings and dynamics for post-disaster intervention:
  - Recognizing the different personal responses and dynamics or interpersonal relationships (i.e., lowered defensiveness, heightened neediness, affiliated behavior, need for comforting)
  - Increasing the capacity to work in a chaotic environment, without the protection of usual roles and office settings
  - Conducting interventions in environments of need, such as shelters, temporary or crowded relief centers, and morgues.

Develop Educational Materials

- Materials focused on training survivors and emergency responders to support one another and on teaching parents how to talk with their children about the event and its consequences
- A comprehensive list of available disaster mental health training resources, along with recommendations identifying the most useful materials
- Sanctioned training materials and handouts that are easily available to practitioners via Web and CD-ROM technology.

Develop Specialized Training Modules for Mental Health and Medical Practitioners on:

- Providing consultation to disaster response leaders, team leaders and workers, and other members of the community on mental health aspects of mass violence
- Explaining when and how to refer service users to more intensive mental health services
- Providing effective didactic education to survivor groups and emergency workers
- Offering systems for follow-up of high-risk survivors
- Providing mental health services to children of different ages
- Identifying survivors presenting both initially and at later times by:
  - Identifying the settings where those at highest risk for continuing psychological problems are likely to be encountered
  - Integrating mental health care into settings where emergency medical treatment is provided
  - Providing evidence-based assessment methods for clergy, primary care providers, and mental health professionals
- Offer training in specific evidence-based, manual-driven interventions, such as:
  - Brief cognitive-behavioral methods designed to prevent PTSD
  - Bereavement support and treatment of traumatic bereavement
  - Psychotropic medications for managing acute stress reactions
  - Stress management (e.g., relaxation, breathing)
  - Coping-skills training (e.g., problem-solving, giving and receiving help, mutual support communication skills for families and neighbors, assertion training)
  - Relapse prevention
  - Brief interventions designed to prevent abuse of alcohol and prescription medicine
- Recognizing mental health challenges associated with biological or chemical disasters, terrorism, or use of weapons of mass destruction
- Integrating counseling with welfare response and practical assistance
- Addressing secondary traumatization, burnout, vicarious traumatization, and the need for gradual return to usual duties
- Offering community interventions
  - Assessment of environments where survivors and emergency responders

congregate and strategies for improving those environments
  - The effects of disaster and violence on the functioning of larger groups of people, such as families, communities, and workplaces, and strategic interventions (e.g., assessment, consultation, support programs) for such groups
  - Community organization and collaboration with self-help organizations
  - The role of media in the aftermath of disaster and mass violence, along with practical advice for managing common aspects of media relations.
- Addressing primary care practitioners
  - Assess and treat traumatic stress and loss issues at the primary care level
- Executive skills training on how to:
  - Form, operate, and maintain a disaster mental health team
  - Liaison with community, state, and federal leaders
  - Navigate the grant application process
  - Identify potential needs
  - Ensure that qualified and trained professionals are provided at appropriate points and settings of the post-disaster response
  - Oversee and supervise general support workers
  - Verify the multiplicity of counselors, operational debriefers, and others who offer help are appropriate
  - Establish a place for counseling and command and control activities
  - Provide clear information to other post-disaster workforces on their roles, with clear delineation of what they can offer
  - Offer and monitor outreach and follow-up (i.e., use of media, providing brochures, cards with contact details, etc.)
  - Establish clinical issues and responsibilities as professionals, including documentation and review
  - Establish the framework for follow-up
  - Set up clear liaison with local and neighboring agencies of response and local care systems
  - Effectively support the caregivers (i.e., preventing secondary traumatization, burnout, vicarious traumatization)
  - Consider ethical issues associated with disaster mental health service delivery.

Improve the Process of Disaster Mental Health Training

- Provide training in language that is readily understood, avoiding professional jargon and the pathologizing of normal responses.
- Develop hands-on training approaches that give trainees multiple opportunities to observe, practice, and receive coaching as they attempt to employ various skills by increasing the use of:
  - Role-play exercises
  - Sample scripts that illustrate skills
  - Narratives describing real-world disaster scenarios
  - Interactive CD-ROM video materials.
- Increase use of videotapes showing aspects of disaster mental health care to give trainees a sense of what really takes place at disaster sites and settings, what they may see, and how these settings typically look and feel.
- Move toward greater specification of training procedures and systematization of delivery of training.
- Develop systems for continuing education of disaster mental health workers.
- Develop methods to evaluate the effectiveness, and perceived usefulness of disaster mental health training procedures.

Reference

Young, B.H., Ruzek, J.I., and Pivar, I. (2001). *Mental Health Aspects of Disaster and Community Violence. A Review of Training Materials.* Menlo Park, CA, National Center for PTSD and Washington, D.C. Center for Mental Health Services.

Appendix F: Additions and Dissenting Opinions

Debriefing:

Dr. George Everly:

1) The call for caution as one considers early psychological intervention subsequent to mass disasters, warfare, and other significant critical incidents is an admonition that must certainly be heeded. As such, the historical record should clearly reflect its empirical origins, beyond the clinically intuitive and obligatory motives of *primum non nocere*. The recent concern for early intervention arose from publication of the *Cochrane Reviews* (Rose, Bisson, and Wessely, 2002). The *Cochrane Reviews* have made an important contribution to the early intervention literature by pointing out the difficulty in employing one-to-one counseling (therein referred to as "debriefings") with hospitalized medical patients. However, by using medical patients (as opposed to physically healthy participants) and employing one-to-one interventions (as opposed to the more standard small-group intervention), the "debriefings" as reviewed in the Cochrane documents tell us little about early interventions as commonly practiced subsequent to mass disasters, warfare, and related critical incidents. As Ruzek (2001) notes, "the controlled studies that have been conducted have a variety of limitations; for example, debriefing as tested in this research has differed significantly from mainstream application of the method..." (p. 33). Due to its liberal usage, the term "debriefing" has lost any sense of operational meaning, thus conclusions regarding its effectiveness must be anchored to an operational definition of the term itself. Having made the aforementioned recommendation, it is important to note that the literature review committee did identify two randomized controlled trials (RCTs) (Campfield and Hills, 2001; Deahl et al., 2000) providing evidence that may be seen as support for the structured and standardized group crisis intervention Critical Incident Stress Debriefing (CISD).

2) Even more fundamentally, any conclusion that "psychological debriefing" may be harmful engenders concern. The two randomized controlled trials upon which such a conclusion may be based are suspect regarding both internal and external validity. Both randomized controlled trials (Bisson et al., 1997; Hobbs et al., 1996, with follow-up by Mayou et al., 2000) failed to achieve equivalent group membership at pretest ("debriefed" groups had more severe injuries in both studies). The pretest differences may have served to influence post-intervention outcomes. Clearly, scrutiny of the manifest psychometric increases in the "debriefed" group within the Hobbs study reveals a statistically significant change that has no practical clinical relevance.

3) Total adherence to randomized controlled trials as the sole source of evidence is in contra-distinction to trends in the related field of psychotherapy research. As Seligman (1996) has noted, "But efficacy studies are not necessary, sufficient, or privileged over effectiveness studies in deciding whether treatment works" (p. 1077). We appear to be using a double standard for what we accept as evidence of psychotherapy outcome as opposed to what we accept as evidence in early intervention research. Flannery's (Flannery et al., 1995, 1998) multi-component crisis intervention system, while selected as one of the ten best clinical programs in 1996 by the American Psychiatric Association, is, therefore, left out of consideration due to its lack of randomized controlled trials. It would seem myopic to disregard from consideration non-equivalent controlled group outcome research, whether relating to the field of psychotherapy or early intervention. Finally, Deahl (2002) has noted, "Outcome research into the effectiveness of debriefing raises

important questions about the ethics as well as the status of conventional randomized controlled trial methodology... Clinicians might lament that in attempting to satisfy such rigorous methodological criteria randomized controlled trials have become so divorced from clinical reality that their findings become meaningless... Randomized controlled trials are not the sine qua non of EBM [Evidence Based Medicine]" (p. 21).

4) Finally, while it seems clear at this point that there is insufficient randomized controlled trial evidence to recommend "one off" crisis counseling with medical patients (see *Cochrane Reviews*), this finding has very little to do with the task of addressing the mental health needs of victims in the wake of a mass disaster such as the World Trade Center terrorist attack. Evidence-based practice guidelines pertaining to mass disasters, warfare, and related critical incidents must be sure to exhibit external validity, i.e., they should reflect research (randomized controlled trials or not) that has direct applicability to the focus of the extant recommendations (i.e., mass disasters, etc.).

References

Bisson, J., Jenkins, P., Alexander, J., and Bannister, C. (1997). Randomized controlled trial of psychological debriefing for victims of acute burn trauma. *British Journal of Psychiatry, 171,* 78–81.

Campfield, K. and Hills, A. (2001). Effect of timing of critical incident stress debriefing (CISD) on posttraumatic symptoms. *Journal of Traumatic Stress, 14,* 327–340.

Deahl, M. (2002). Comments and criticism. In Rose, S., Bisson, J., and Wessely, S. Psychological debriefing for preventing post traumatic stress disorder (PTSD). (*Cochrane Review*). In: *The Cochrane Library,* Issue 1, Oxford: Update Software.

Deahl, M., Srinivasan, M., Jones, N., et al. (2000). Preventing psychological trauma in soldiers: The role of operational stress training and psychological debriefing. *British Journal of Medical Psychology, 73,* 77–85.

Flannery, R.B., Jr., Hanson, M., Penk, W., et al. (1995). The assaulted staff action program. In L. Murphy et al. (eds.). *Job Stress Interventions*. Washington, D.C.: APA Press.

Flannery, R.B., Jr., Hanson, M., Penk, W., et al. (1998). Replicated declines in assault rates after the implementation of the ASAP. *Psychiatric Services, 49,* 241–243.

Hobbs, M., Mayou, R., Harrison, B., et al. (1996). A randomized controlled trial of psychological debriefing for victims of road traffic accidents. *British Medical Journal, 313,* 1438–1439.

Mayou, R., Ehlers, A., and Hobbs, M. (2000). Psychological debriefing for road traffic accident victims. Three-year follow-up of a randomized controlled design. *British Journal of Psychiatry, 176,* 589–593.

Rose, S., Bisson, J., and Wessely, S. (2002). Psychological debriefing for preventing post traumatic stress disorder (PTSD). (*Cochrane Review*). In: *The Cochrane Library,* Issue 1, Oxford: Update Software.

Ruzek, J.I. (2001). Early intervention: Clinical forum. *NC-PTSD Quarterly, 10 (2),* 33–34.

Seligman, M. (1996). Science as an ally of practice. *American Psychologist, 51,* 1072–1079.

Dr. Brett Litz

There is no available evidence from randomized controlled trials to support the efficacy of CISD as an early preventative intervention. CISD may assist

with group cohesion, morale, and other important variables that have not been demonstrated empirically. Further research may establish whether CISD promotes favorable outcomes and, if so, what those outcomes might be.

Reference

Litz, B.T., Gray, M.J., Bryant, R., and Adler, A.B. (in press). Early intervention for trauma: Current status and future directions. *Clinical Psychology: Science and Practice*.

COL James Stokes

"Critical incident stress debriefing" and the acronym CISD should be used only in the organizational context of preexisting teams that have experienced traumatic mission events, debriefed according to protocol with the intent of sustaining capability to continue operations.

Appendix G: Intervention Literature Review Tables

Introduction

The following research tables attempt to summarize the empirical literature related to early interventions in the face of disasters. In the process of gathering information for this project, a dearth of well-designed studies of disaster interventions led to a broadening of the literature review. The tables below make reference to a range of studies of both early-stage and later-stage interventions for trauma-related symptoms resulting from a variety of stressors. Because of the relatively small number of studies that are specific to disaster interventions, many of which are methodologically limited, it may be useful to extrapolate findings from well-designed and controlled studies in the broader trauma intervention literature.

All articles contained in the following tables were published between 1967 and the present, in English. Studies were obtained primarily from a review of Psych Info and PILOTS,[7] but were also obtained from reference lists and expert recommendations. It should be emphasized that the following tables are a work in progress. They do not contain a comprehensive review of all relevant studies, and we expect that the information in the tables will continue to grow as more studies are published and existing studies are added.

All studies are listed alphabetically within tables.

The tables are divided as follows for ease of reading:

[7]PILOTS stands for "Published International Literature on Traumatic Stress," the National Center for PTSD's database of abstracts for literature on traumatic stress. PILOTS contains over 22,000 abstracts and is currently the largest interdisciplinary index to the worldwide literature on traumatic stress.

Table 1. Non-"debriefing" interventions, delivered within approximately one month of trauma

Table 2. Self-described "psychological debriefing" interventions delivered within approximately one month of trauma

Table 3. Self-described "psychological debriefing" interventions delivered two to six months post-trauma

Table 4. Non-"debriefing" interventions delivered two to six months post-trauma

Table 5. Non-"debriefing" interventions delivered more than six months post-trauma

Table 6. Studies of traumatic bereavement and complicated grief in adults

Table 7. Recent and well-controlled studies of medications for PTSD

Table 8. Studies of children/adolescents with trauma symptoms related to single-incident stressors, including disasters

Table 9. Studies of traumatic bereavement/ complicated grief in children and adolescents

Table 10. Studies of children/adolescents with trauma symptoms related to sexual or physical abuse (potential problems with generalizability to disasters)

Coding of Studies Included in the Review

a) Study/Level. The studies contained in the report are classified according to the Agency of Health Care Policy and Research's (AHCPR) Levels of Evidence. This system of classification was used in the recent set of PTSD practice guidelines from the International Society for Traumatic Stress Studies (Foa, Keane, and Friedman, 2000). Only studies that met Level A, B, or C criteria are included in the review. Therefore, evidence based on widespread clinical practice or recently developed treatment that has not been subjected to empirical test is not included. Case studies also are not included.

While the Levels of Evidence allow the reader more easily to categorize studies according to design (i.e., randomization and placebo control), they should not be interpreted as overall rankings of a study's merit. For example, some studies are coded at a Level A because they are randomized and controlled, but they suffer from serious methodological limitations that limit interpretation of the findings. In contrast, some studies that are coded at a Level B or Level C have been well controlled and demonstrate good internal validity.

Level A: Evidence is based on randomized, well-controlled clinical trials for individuals with PTSD.[8]

Level B: Evidence is based on well-designed clinical studies, without randomization or placebo comparison for individuals with PTSD.

Level C: Evidence is based on service and naturalistic clinical studies, combined with clinical observations that are sufficiently compelling to warrant use of the treatment technique or follow the specific recommendation.

Country from which the study participants were drawn.

b) Study Group. Collective trauma vs. individual trauma. Potentially traumatizing events such as disasters or combat were classified as collectively experienced, whereas events such as motor vehicle accidents or sexual assaults were classified as individually experienced.

c) Interval Between Trauma and Assessment. Timing of intervention and assessments.

d) Conditions, Sample Size, and Individual vs. Group Intervention. In addition to a basic classification as CBT, EMDR, CISD, etc., a functional description of the actual intervention is provided. We have recorded whether the intervention was provided individually, to a family, to a group, etc.

e) Results. The main study findings are noted, with particular attention to trauma-related symptoms. *Measures:* The type of measurement is noted (e.g., interview, self-report), with attention to whether or not the measurement system is reliable and valid. A reference list of the names of all measures follows the tables.

f) Gold Standards, Met and Unmet. We have noted methodological strengths and limitations with reference to Foa and Meadows' (1997) gold standards for clinical research. In some cases, a "?" is used to indicate that it is unclear whether or not a given criterion has been met. Likewise, in some cases, we have indicated that a given criterion has been partially met. If other major limitations are present, they are noted as well.

The Foa and Meadows (1997) criteria are as follows:

1. Clearly defined target symptoms
2. Reliable and valid measures
3. Blind evaluators
4. Assessor training[9]
5 Manualized, replicable specific treatment programs
6. Unbiased (random) assignment to treatment
7. Treatment adherence.

References

Foa, E.B., Keane, T.M., and Friedman, M.J. (eds.) (2000). *Effective Treatments for PTSD: Practice Guidelines from the International Society for Traumatic Stress Studies*. New York: Guilford Press.

[8]Studies that met less than three of Foa and Meadows' gold standards were given a "–" to indicate substantial limitations in terms of internal or external validity. In contrast, if all seven gold standard criteria were met for a given study, the study was given a "+" to indicate its strengths.

[9]The vast majority of studies reviewed did not provide detailed information about the level of assessor training. The benefit of the doubt was given in this area when it could not be determined from information in the article itself.

Foa, E.B., and Meadows, E.A. (1997). Psychosocial treatments for post-traumatic stress disorder: A critical review. *Annual Review of Psychology 48,* pp. 449-480.

Table 1. Non-"debriefing" interventions, delivered within approximately 1 month of trauma

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Brom, Kleber, & Hofman, 1993 **Level A** The Netherlands	Individual trauma: Adult, male and female motor vehicle accident (MVA) survivors	1 month after MVA	Individual intervention: 1. 3 to 6 sessions of treatment package including psycho-education, support, "reality testing" (n=68). 2. No-treatment, assessment-only control (n=83).	No significant differences between groups on trauma symptom improvement (IES).	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 7) Treatment adherence Other Pre-intervention trauma symptoms were higher in the intervention group, despite randomization Lacks comparison treatment group Self-report measures only
Bryant, Harvey, Dang, Sackville, & Basten, 1998 **Level A+** Australia	Individual trauma: Adult motor vehicle accident survivors or industrial accident survivors	Therapy commenced within 2 weeks of trauma Mean (M) = 10 days post-trauma	Individual intervention: 1. Five 1.5-hour sessions of CBT (education, progressive muscle relaxation, imaginal exposure, cognitive restructuring, in vivo exposure) (n=12). 2. Five 1.5-hour sessions of supportive counseling (education, general problem-solving skills, unconditional support) as a control group (n=12).	Fewer individuals in the CBT group met criteria for PTSD at post-treatment and 6 months post-trauma. Greater reductions in intrusive, avoidance, and depressive symptoms (IES; BDI) among the CBT group at post-treatment and 6-month follow-up.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Lacks untreated/waitlist control group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Bryant, Sackville, Dang, Moulds, & Guthrie, 1999 **Level A+** Australia	Individual trauma: Adult motor vehicle accident survivors and nonsexual assault survivors	M = 10 days post-trauma Therapy commenced within 2 weeks of trauma	Individual intervention: 1. Five 1.5-hour sessions of prolonged exposure plus anxiety management (n=15). 2. Five 1.5-hour sessions of prolonged exposure (n=14). 3. Five 1.5-hour sessions of supportive counseling (n=16).	Greater reductions in PTSD found in the prolonged exposure plus anxiety management and prolonged exposure groups as compared to supportive counseling group, at both post-treatment and 6-month follow-up (CAPS).	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Lacks untreated/waitlist control group
Bunn & Clarke, 1979 **Level A–** Australia	Individual trauma: Parents or immediate relatives of a seriously injured or ill person who had been brought to an ER. Excluded those with frequent attendance at hospital.	Counseling session and assessment took place at ER visit (immediate)	Individual intervention: 13 males and 17 females, ages 16–68. Study does not report distribution of participants per group. 1. 20 minutes of "supportive, empathic" counseling in quiet room adjacent to the ER. Counseling provided by primary investigator. Participants encouraged to express feelings and concerns re: crisis. Information about injury or illness and its prognosis was provided. 2. 20 minutes alone in quiet room adjacent to ER.	Used content analysis scales to analyze verbal samples before and after intervention/control. Pre-post decrease in level of anxiety (as measured through content analysis scales) of the intervention group as compared to the control group.	Standards Met 4) Assessor training 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Other Lacks comparison treatment group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Duckworth, 1986 **Level B–** Leeds, United Kingdom	Collective trauma: UK police officers who worked in conjunction with Bradford fire disaster	One month post-fire, all police officers involved were sent screening questionnaire (GHQ). Those with high scores were offered counseling.	Individual intervention: 34 officers with high GHQ scores received individually tailored counseling by the principal officer, 2 months post-disaster. Treatment lasted between one and five sessions.	Significant pre-post changes on GHQ-60 somatic symptoms, anxiety symptoms, social dysfunction, and severe depression.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures Unmet Standards 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other No control or comparison group
Echeburua, de Corral, Sarasua & Zubizarreta, 1996 **Level A** Spain	Individual trauma: Adult, female rape survivors	M = 5 weeks post-trauma	Individual intervention: 1. Five 1-hour sessions of individual cognitive restructuring and coping skills training (n=10). 2. Five 1-hour sessions of progressive muscular relaxation training (n=10).	No significant differences between groups on fears, anxiety (STAI), or depression (BDI) at 1, 3, 6, or 12-month follow-up. No differences between groups in rates of PTSD (SSPSDS) at any measurement time. Severity of PTSD symptoms significantly lower in Group 1 at 12-month follow-up.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 3) Blind evaluators 7) Treatment adherence Other All-female sample Small sample size Lacks untreated/waitlist control

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Foa, Hearst-Ikeda, Perry, 1995 **Level B** United States	Individual trauma: Adult, female survivors of rape or aggravated assault	M = 12 days post-trauma	Individual intervention: 1. Four 2-hour sessions of brief cognitive behavioral program (n=10). 2. Five 1.5-hour assessment interviews (n=10).	CBT group had less severe PTSD symptoms (PSS) than control group at 2 months post-assault. However, at 5.5 months post-assault, groups differed only on re-experiencing symptoms. At 5.5 months, the CBT group had lower depression scores (BDI).	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 7) Treatment adherence (partially met) Unmet Standards 6) Random assignment Other Small sample size Lacks comparison treatment group All-female sample
Gidron, Gal, Freedman, Twiser, Lauden, Snir, & Benjamin, 2001 **Level A** United States	Individual trauma: Adult motor vehicle accident survivors	Treatment within 48 hours of ER visit. Assessment given 3–4 months after treatment.	Individual intervention: 9 male and 8 female participants were assigned to either: 1. Two telephone sessions of memory structuring intervention (MSI), modeled on CBT. 2. Two telephone sessions of supportive listening. Sessions took place on consecutive days within 48 hours of discharge from ER.	Fewer participants in MSI than control group met criteria for PTSD, and greater reductions in PTSD found in the MSI as compared to supportive counseling group, at 3–4 month follow-up (PTSD).	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 7) Treatment adherence Other Small sample size Lacks pre-test measure; data on acute PTSD symptoms were collected retrospectively

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Lacks comparison treatment group.
Kilpatrick & Veronen, 1983 **Level B** United States	Individual trauma: Adult, female rape survivors	Treatment and assessment were less than 1 month after assault	Individual intervention: 1. Repeated assessments 2. Delayed assessment 3. 4–6 hours of CBT (psycho-ed, exposure, cognitive restructuring, anxiety management) conducted in two sessions.	No greater symptom reduction in active treatment than in control groups.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other All-female sample Prior to DSM-IV conceptualization of PTSD Small sample size
Stevens & Adshead, 1996 (cited in and described only in Hobbs & Adshead, 1996) **Level A** London, England	Individual trauma: Male and female survivors of a motor vehicle accident, dog bite, or assault by a stranger Recruited from ER of hospital	Session introduced in ER within 24 hours of medical treatment. Assessments given at 1week, 1 month, and 3 months after their attendance at ER.	Individual intervention: 44 male and 19 female participants. Numbers not reported per group. 1. One session standardized interview, "counseled group." 2. Untreated control group.	All subjects showed reduction in SEQ, BDI and IES scores by 3 months post-trauma. No differences in counseled and control groups in terms of any symptoms, except that those with high entry SEQ and BDI scores had significantly better outcome at 3 months in the counseled group vs. the control group. (Study does not include specific	Standards Met 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 7) Treatment adherence Other Lacks comparison

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
				outcome information.)	treatment group Little information provided about intervention, other than it followed "standardized interview" "Counseled group" had slightly higher pre-treatment SEQ and BDI scores and were slightly older Some questionable Criterion A events (for PTSD diag.) (e.g., dog bite) Lacks reliable and valid measure specific to PTSD

Table 2. Self-described "psychological debriefing" interventions delivered within approximately 1 month of trauma

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Amir, Weil, Kaplan, Tocker, & Witztum, 1998 **Level B–** Israel	Collective trauma: Non-injured adult women who survived a terrorist attack in Israel	Assessments given 2 days, 2 months, and 6 months post-attack First group session held 2 days after the attack.	Group intervention: Six-session "crisis group" given to all 15 women who survived terrorist attack. Group met once a week for 6 weeks. Groups emphasized "abreaction, normalization of feelings, coping with symptoms, cognitive restructuring" (n=15).	IES full scale scores significantly higher at 2 days than at 2-month and 6-month follow-up. No significant changes seen over time in the SCL-90 or IES subscales, with the exception of increases in scores on the SCL-90 Interpersonal Sensitivity subscale.	Standards Met 2) Reliable and valid measures 4) Assessor training Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other All-female sample No untreated control or comparison group Very small sample size; limited statistical power Self-report measures only
Bisson, Jenkins, Alexander, & Bannister, 1997 **Level A** Wales	Individual trauma: Adult, hospitalized burn victims	Psychological debriefing (PD) introduced at mean of 6 days post-trauma. Assessments completed at 3 months and 13 months post-trauma	Mixed individual/couples: Participants were randomly assigned to intervention or assessment-only control group. One session, termed "psychological debriefing" because it was based on Mitchell's original (1983) model. Intervention "focused solely on the burn trauma and its effects, and was supplemented with written information describing common reactions following traumatic events, strategies to deal with them, and contact telephone numbers if	Greater PTSD (IES and CAPS), anxiety (HADS), and depression (HADS) in "debriefed" group at 13 months.	Standards Met 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 7) Treatment adherence Other Lacks comparison

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
			further help was required." Average length of session 44 minutes. 1. Individual or couples session (n=57). 2. Assessment only control (n=46).		treatment group "Debriefed" group reported higher initial symptoms, more severe burns and greater exposure despite random assignment
Campfield & Hills, 2001 **Level A** Australia	Collective trauma: Adult employees of a bank who had been involved in robberies	Victims of robbery randomly assigned to either immediate (<10 hours) or delayed (>48 hours) debriefing group Assessments took place immediately post-debriefing, 2 days post-debriefing, 4 days post-debriefing, 2 weeks post-robbery	Mixed group/individual intervention: 1. "Debriefing" group: Participants were randomly assigned to a "debriefing" (either group or individual 2-hour debriefings) within 10 hours post-robbery at their place of work (n=36). 2. Delayed-treatment control: Participants were randomly assigned to a debriefing more than 48 hours post-robbery at their place of work (n=41).	Number and severity of PTSD symptoms (PDS) did not differ immediately post-debriefing, but were lower for the immediate than for the delayed group at each subsequent time interval (2 days post debriefing, 4 days post debriefing, 2 weeks post-robbery).	Standards Met 2) Reliable and valid measures (partially met) 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 7) Treatment adherence Other Lacks comparison treatment group Primary investigator conducted all debriefings and reported that she "may have been biased in favor of immediate debriefing"; she was present when participants completed the PDS No measures administered pre-intervention

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Carlier, Lamberts, Van Uchelen, & Gersons, 1998 **Level C** Amsterdam, The Netherlands	Collective trauma: Police officers in Amsterdam who had responded to a plane crash. "for operational reasons about half of the officers involved failed to undergo debriefing"	Intervention took place "as soon as possible after the disaster" but is not specified. Assessments given at 8 and 18 months.	Group intervention: 1. Group "psychological debriefing" according to the seven-phase CISD procedure (Mitchell, 1983), in groups of no more than 10 voluntary police officers, at police stations (n=46). 2. Non-debriefed police officers who were also involved in the disaster but did not receive debriefing due to "operational reasons" (n=59).	Immediately and 8 months post-disaster, groups did not show significant differences on PTSD symptoms (SI-PTSD). Eighteen months post-disaster, debriefed showed significantly more disaster-related hyper-arousal symptoms.	<u>Standards Met</u> 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs <u>Unmet Standards</u> 1) Clearly defined target symptoms 6) Random assignment 7) Treatment adherence <u>Other</u> Lacks comparison treatment group Lacks pre-test measure; data on acute PTSD symptoms were collected retrospectively
Carlier, Voerman, and Gersons, 2000 **Level C** Amsterdam, The Netherlands	Individual: Male and female police officers	Debriefing sessions given at 24 hours, 1 month, and 3 months post-trauma. Assessments given pre-debriefing, 24 hours post-trauma (shortly after first debriefing), 1 week post-trauma, 6 months post-trauma (after second and third debriefing sessions).	Individual intervention: Pre/post-test design of: 1. Police officers given three individual psychological debriefings; 24 hours, 1 month, and 3 months post-trauma (n=86). 2. Non-debriefed internal control group (those who turned down opportunity for debriefing) (n=82). 3. External control group (those who experienced traumas prior to debriefing program being introduced in police force) (n=75).	One week post-trauma, debriefed subjects showed significantly more re-experiencing PTSD symptoms than either the internal or external control groups (DTS-PTSD; IES). Six months post-trauma, no differences among groups. High levels of satisfaction with debriefing was not correlated with positive outcomes.	<u>Standards Met</u> 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs <u>Unmet Standards</u> 1) Clearly defined target symptoms 6) Random assignment 7) Treatment adherence <u>Other</u> Lacks comparison treatment group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Self-selection for debriefings Low rates of PTSD overall Follow-up data collected retrospectively
Conlon, Fahy & Conroy, 1999 **Level A** Ireland	Individual trauma: Adult motor vehicle accident (MVA) survivors	Intervention took place at mean of 7 days post-motor vehicle accident. Initial assessment took place prior to intervention (M=7 days post-MVA). Follow-up assessments took place a mean of 3 months after a motor vehicle accident.	Individual intervention: 1. Single counseling session that followed standard protocol, of approximately 30 minutes' duration. Contained psycho-education and encouragement of emotion (n=18). 2. Assessment-only control (n=22).	PTSD symptoms (IES and CAPS) decreased sharply for both groups, but there were no significant differences between groups at the 3-month follow-up assessment point. High initial distress, increasing age, and high levels of perceived threat were significant independent predictors of morbidity.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 7) Treatment adherence Other Little information about intervention provided, other than "standard protocol" was followed Lacks comparison treatment group Low statistical power
Deahl, Gillham, Thomas, Searle, & Srinivasan, 1994 **Level C** Great Britain	Collective trauma: British soldiers (duties of handling and identification of bodies) in Gulf War	Intervention given at end of service, either in Gulf or upon return to UK Assessment measures administered 9 months after return from Gulf	Group intervention: Authors labeled the intervention "psychological debriefing." 1. One session intervention given to 69% of soldiers. Intervention consisted of education re: PTSD and normal reactions to trauma, advice on where to get help,	After 9 months, no difference between debriefed and non-debriefed on IES or GHQ-28. Increased symptoms associated with life threat and history of psychological problems	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 1) Clearly defined target

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
			and small group "debriefing" session based on Dyregov (1989) model (n=42). 2. Non-intervention control group of soldiers who did not receive debriefing because it was not "operationally possible" (n=20).	IES caseness high, with 42% of non-intervention group and 50% of intervention group meeting caseness criteria (n.s.).	symptoms 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other Lacks comparison treatment group No pre-debriefing measures All measures self-report
Deahl, Srinivasan, Jones, Thomas, Neblett, & Jolly, 2000 **Level B** Great Britain	Collective trauma: Adult male Peacekeepers serving in Bosnia Soldiers were "randomly allocated" by commanding officers blind to which group would receive debriefing. Allocation to group was based on "individual availability and commitment to other duties," introducing possibility of bias.	Initial assessment took place prior to intervention (at end of 6-month tour). Follow-up assessments at 3, 6, and 12 months. Intervention took place at end of 6-month tour of duty.	Group intervention: 1. One 2-hour formal debriefing session (Mitchell & Dyregrov method) in groups of 8-10 (n=54). 2. Assessment-only control (n=52).	Two groups differed at baseline, with HADS anxiety and total score and both subscales of the IES higher in the non-intervention group. SCL-90 scores and CAGE (alcohol) scores higher in the non-intervention group at 1-year follow-up.	Standards Met 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 1) Clearly defined target symptoms 6) Random assignment (partially met) 7) Treatment adherence Other All-male sample Lacks comparison treatment group Unclear level of exposure; groups had very low symptoms prior to intervention Debriefed group had lower symptoms on the HADS and IES at baseline

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Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Eid, Johnsen, & Weisaeth, 2001 **Level C** Norway	Collective trauma: Military personnel and firefighters exposed to severe car accident in tunnel — rescue effort placed workers in harms way.	Intervention was done 1 day post-accident. Assessment was done 2 weeks after accident.	Group intervention: Military trainees received group psychological debriefing, stress management, and operational debriefing (n=9). Civilian firefighters received stress management and operational debriefing, but no psychological debriefing (n=9). 1 day post-accident, all members of military training group (n=9) voluntarily participated in semi-structured group "psychological debriefing" based on Mitchell model. Psychological debriefing intervention lasted 2.5 hours. Later the same day, both groups (military trainees and civilian firefighters) received an "after-action review/ operational debriefing" and brief psycho-educational group intervention on stress management.	The group that received additional PD intervention reported fewer PTSD symptoms (PTSS-10) 2 weeks later. No differences on the IES (intrusion/avoidance symptoms) or the GHQ-30 (psychosocial adjustment and quality of life).	<u>Standards Met</u> 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs <u>Unmet Standards</u> 1) Clearly defined target symptoms 3) Blind evaluators 6) Random assignment 7) Treatment adherence <u>Other</u> Lacks untreated comparison group Very small sample size Self-report measures only No pre-intervention assessment No long-term follow-up

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Hobbs, Mayou, Harrison, & Worlock, 1996 **Level A** Great Britain	Individual trauma: Adult male and female motor vehicle accident (MVA) survivors randomly assigned to treatment or assessment-only control	Intervention and screening (interview, IES, BSI) took place within 24–48 hours of MVA "in most cases." Reassessed by interview, IES, and BSI at 4 months.	Individual intervention: 1. One session of 1-hour individual "psychological debriefing." Authors describe intervention as "review of the traumatic experience, encouragement of emotional expression, promotion of cognitive processing of the experience." Intervention noted by authors to have limited structure (n=54). 2. Assessment only control (n=52).	Psychological debriefing condition had worse outcomes on two BSI scales. No group differences on IES. Neither group showed significant reductions in any symptoms.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs (partially met) 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators (not reported) 7) Treatment adherence Other Lacks comparison treatment group Differential attrition in groups Intervention group had a higher mean injury severity score and longer hospital stay than the controls, did not control for this

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Jenkins, 1996 **Level C** United States	Collective trauma: 34 male and 2 female emergency medical technicians, paramedics and firefighters who worked at the site of a mass shooting	1st assessment took place 8-10 days post-shooting; 2nd assessment took place one month post-shooting. "CISD" offered within 24 hours of shooting. Participation was voluntary. No description of intervention provided.	Group intervention (questionable): 1. 52% of the sample (n=15) attended "at least one session" of CISD. 2. Control group chose not to participate in CISD (n not reported, but approximately 15).	Pre-post symptoms (SCL-90-R) decreased over the course of one month in both the debriefed and non-debriefed groups. Participation in debriefing was correlated with lower depression and anxiety scores 1 month post-shooting.	Standards Met 2) Reliable and valid measures (partially met) 4) Assessor training Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Primarily male sample Self-selection for debriefings Lacks comparison treatment group Small sample size Self-report measures only
Lee, Slade, & Lygo, 1996 **Level A** United Kingdom	Individual trauma: Adult women who experienced early miscarriage randomly assigned to intervention or no-treatment control	Initial assessment given 2 days post-miscarriage. Intervention introduced 2 weeks post-miscarriage, by female psychologist, in participants' homes. Follow-up assessment given 4 months post-miscarriage.	Individual intervention: 1. One 1-hour session. Authors termed intervention "psychological debriefing," described as six-phase intervention based on Dyregrov (1989) and Mitchell (1983) methods. Limited information given. (n=21). 2. No-intervention control group (n=18).	Significant main effects of time on depression (HADS), anxiety (HADS), intrusion (IES), avoidance (IES). No main effects or interactions for the intervention.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 7) Treatment adherence

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Other All-female sample Lacks comparison treatment group Questionable Criterion A event (for PTSD diag.) Small sample size Self-report measures only

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Mayou, Ehlers & Hobbs, 2000 **Level A** Great Britain	Individual trauma: 3-year follow-up of Hobbs et al. (1996)	3-year follow-up of Hobbs et al. (1996)	Individual intervention: 3-year follow-up of Hobbs et al. (1996)	Psychological debriefing group had significantly worse outcomes at 3-year follow-up (BSI; travel anxiety, financial status, and overall functioning). No differences between groups on IES. Patients who initially had high intrusion and avoidance symptoms (IES) remained symptomatic if they had received the intervention, but recovered if they did not receive the intervention.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs (partially met) 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators (not reported) 7) Treatment adherence Other Lacks comparison treatment group Intervention group had a higher mean injury severity score and longer hospital stay than the controls – did not control for this Significant differential attrition and initial differences between groups may have influenced 3-year follow-up

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Rose, Brewin, Andrews, & Kirk, 1999 **Level A** United Kingdom	Individual trauma: Adult male and female survivors of actual or attempted physical or sexual assault, or bag snatch	Initial interviews (the intervention) were conducted within 1 month of crime (M=21 days post-crime). Follow-up interviews were conducted at 6 and 11 months.	Individual intervention: 1. One session of "debriefing"(loosely based on Mitchell model), plus psycho-education (n=54). 2. One session of psycho-education only (n=52). 3. Assessment only control (n=51).	All groups improved, but there were no differences among groups on measures of PTSD (PSS and IES) or depression (BDI) at 6 or 11 months.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators Other Very low response rate (157 out of 2,161) to invitation to participate (only 7.3% of initial sample contacted by letter) Results confounded by recommendation for those with PTSD to seek outside treatment following the 6-month interview Self-report measures

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Shalev, Peri, Rogel-Fuchs, Ursano, & Marlowe, 1998 **Level B** Israel	Collective trauma: 39 Israeli soldiers (male) directly exposed to combat were asked to participate; 2 left the sessions before the end	Debriefing within 48–72 hours after exposure. Assessment pre-post to debriefing.	Group intervention: Soldiers in 6 small units participated in a 2.5-hour historical group debriefing (HGD) (defined as "describing the combat with all possible details," based on Marshall's original model for combat) within 72 hours of combat (n=39).	Pre-post debriefing scores showed that debriefing was correlated with self-reported reduction in anxiety symptom (STAI), improvement in self-efficacy (SELF-C)	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other All-male sample Lacks comparison treatment group or untreated control group No long-term follow-up Low symptomatology at pre-test Self-report measures only

Table 3. Self-described "psychological debriefing" interventions delivered 2-6 months post-trauma

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Chemtob, Tomas, Law, & Cremniter, 1997 **Level B–** United States	Collective trauma: Adult peer counselors and mental health center staff who survived Hurricane Iniki	Assessments at 6, 9, and 12 months post-hurricane. One debriefing/education session introduced 6 months post-hurricane.	Group intervention: Participants received one 5-hour intervention (3 hours of group debriefing, followed by 2 hours of education on post-disaster recovery) either 6 or 9 months following Hurricane Iniki (n=43). Two groups of participants were debriefed: the post-test of Group 1 corresponded with the pre-test of Group 2, to give a partial control for time.	Those who were debriefed showed a significant decrease in symptoms (IES) 3 months post-intervention.	Standards Met 2) Reliable and valid measures 4) Assessor training Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Lack comparison treatment group. Self-report measures only
Kenardy, Webster, Lewin, Carr, Hazell, & Carter, 1996 **Level C–** Australia	Collective trauma: Naturalistic study of police officers, emergency service workers, welfare volunteers, and counselors following the Newcastle earthquake	Unclear when intervention was introduced. Assessments at 27, 50, 86, and 114 weeks post-earthquake.	Not specified whether "debriefing" was group or individual. 1. Non-debriefed (n=133). 2. Intervention was classified as "debriefing" but no descriptive information on naturalistic interventions was provided (mean number of sessions = 1.49) (n=62).	Debriefed showed higher general psychological morbidity (GHQ-12). Overall reduction of symptoms over the course of study in both groups. However, debriefed showed less improvement. No evidence of an improved rate of recovery among the debriefed group.	Standards Met 2) Reliable and valid measures 4) Assessor training Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Self-selection for debriefing Lacks adequate control group or comparison

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					treatment group No verification of self-reported participation in debriefing Lacks pre-intervention assessment Self-report measures only

Table 4. Non-"debriefing" interventions delivered 2-6 months post-trauma

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Bordow & Porritt, 1979 **Level B–** Australia	Individual trauma: Adult, male motor vehicle accident (MVA) survivors admitted to hospital for at least 1 week. Most had physical injuries. First 30 pts received no intervention, later served as delayed contact control. Next 40 pts were randomly assigned to either immediate review (one interview) or immediate review plus 2-10 hours of individual support from social worker.	3–4 months post-injury	Individual intervention: 1. Delayed contact control condition, contacted 3-4 months after injury (n=30). 2. Immediate review group interviewed within 1 week of injury (n=10). 3. Full intervention group, interviewed within 1 week of injury and offered support from a social worker (n=30).	Results favored the full intervention group in terms of general distress (Langner, Langsley), work problems, pleasant and unpleasant experiences (PAS; NAS), health deterioration (HCQ), traumatic neurosis symptoms, length of stay in hospital, and quality of social support.	Standards Met 2) Reliable and valid measures (partially met) 4) Assessor training 6) Random assignment (partially met) Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Other All-male sample Participants in the immediate review and full intervention groups were more likely to be married, but they controlled for this in the analyses Prior to DSM diagnosis of PTSD

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Grainger, Levin, Allen-Byrd, Doctor, & Lee, 1997 **Level B–** United States	Collective Trauma: Adult survivors of Hurricane Andrew	Treatment began 2.5–5.5 months after hurricane Assessments done pre-, post-treatment, and at 3-month follow-up	Individual intervention: 1. One session of EMDR (n=29). Sessions lasted from 30 minutes to 2 hours. 2. Waitlist control (n=11).	Recipients of EMDR showed significant reductions in PTSD symptom (IES) compared to waitlist control group, one month after receiving EMDR.	Standards Met 2) Reliable and valid measures (partially met) 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other Lacks comparison treatment group Self-report measures only Lacks follow-up comparisons between groups

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Guthrie, Wells, Pilgrim, Mackway-Jones, Minshull, Pattinson, French, & Williams, 1999 **Level B** Manchester, England	Collective trauma: Subset of pts who had presented to ER following Manchester bombing	Initial assessments took place 2 months post-bombing	Individual intervention: 102 pts presented to ER following bombing. 25 of the pts were screened 8 wks later and those who scored high (n=12 of the 25) on IES were put into "brief cognitive behavioral therapy." Only 5 of the 12 were considered appropriate for short-term CBT. 3 pts with more complex trauma histories were put into brief psychodynamic interpersonal treatment.	Of the 5 pts offered CBT, 2 successfully completed 6 sessions and showed resolution of PTSD symptom (IES, PSS). PTSD symptom resolved in the 3 pts offered brief psychodynamic interpersonal treatment.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training Unmet Standards 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Lacks adequate control group and comparison treatment group Low response rate to solicitation by mail – treatment-seeking group responded CBT delivered by nurses with no prior experience in technique Small sample size Self-report measures only

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Lindy, Green, Grace, & Titchener, 1983 **Level B–** United States	Collective trauma: Adult survivors of a fire	Treatment and initial assessment introduced between 6 months and 1 year after fire. Assessments took place pre-treatment, 3 months, 1 year.	Individual intervention: Treatment was provided for 30 survivors who requested therapy after the fire, after being contacted in an outreach program. Individual therapy based on short-term (6–12 session) psychodynamic model for acute trauma survivors. Treatment introduced between 6 months and 1 year after fire. All treatments ended within 18 months after the fire.	Those survivors who completed treatment did better on outcome measures (change in target symptom as judged by therapist, SCL-90) than those who dropped out of treatment.	Standards Met 2) Reliable and valid measures 4) Assessor training Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Lacks adequate control group and comparison treatment group Treatment-seeking sample

Table 5. Non-"debriefing" interventions delivered more than 6 months post-trauma

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Devilly & Spence, 1999 **Level B** Australia	Individual trauma: Varied Adults	Trauma occurred >4 weeks prior to assessment Mean duration of trauma: symptoms = 112.44 months (SD = 147.49 months)	Individual intervention: 1. Up to 8 sessions of EMDR (n=11). 2. 9-session CBT intervention (n=12).	CBT intervention more effective at reducing PTSD symptom (IES; PSS-SR). At 3-month follow-up, CBT pts continued to show improvement, while EMDR pts had begun to relapse.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment (partially met) 7) Treatment adherence Other Used a stratified randomization technique No untreated comparison group
Fecteau & Nicki, 1999 **Level A** New Brunswick, Canada	Individual trauma: Adult survivors of motor vehicle accidents	M = 18.8 months after motor vehicle accident	Individual intervention: 1. Four 2-hour individual, weekly sessions of CBT (n=10). 2. Waitlist control (n=10).	CBT group showed decreased PTSD symptoms (CAPS), anxiety (BAI) scores, and depression (BDI) scores compared to control at post-treatment. Treatment gains maintained at 6-month follow-up.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Other Lacks comparison treatment condition

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Foa, Dancu, Hembree, Jaycox, Meadows, & Street, 1999 **Level A+** United States	Individual trauma: Female sexual and non-sexual assault survivors	Not reported	Individual intervention: 1. 9 biweekly individual treatment sessions of prolonged exposure (n=23). 2. 9 biweekly individual treatment sessions of stress inoculation training (n=19). 3. 9 biweekly individual treatment sessions of combined prolonged exposure and stress inoculation training (n=22). 4. 5-week waitlist control (n=15).	All 3 active treatments reduced severity of PTSD (PSS) and depression (BDI) compared with controls, but did not differ significantly from each other, throughout 12-month follow-up. At 12-month follow-up, the prolonged exposure group had lower anxiety (STAI) and higher social adjustment (SAS) scores, and effect sizes were larger on PTSD severity, depression, and anxiety.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other All-female sample Possible experimental bias effect, as principal authors provided training and supervision of all treatments
Foa, Rothbaum, Riggs, & Murdock, 1991 **Level A+** United States	Individual trauma: Female survivors of attempted or completed rape	M = 6.2 years post-assault	Individual intervention: 1. 9 biweekly 1.5-hour sessions of prolonged exposure (n=10). 2. 9 biweekly 1.5-hour sessions of stress inoculation training (n=14). 3. 9 biweekly 1.5-hour sessions of supportive counseling (n=11). 4. 5-week waitlist control (n=10).	All conditions produced improvement on all measures immediately post-treatment and at follow-up. Stress inoculation training produced more improvement on PTSD (ARI) than supportive counseling and waitlist control at post-treatment. Prolonged exposure produced superior outcome on PTSD symptom at 3.5-month follow-up. No significant group differences on anxiety (STAI), or depression (BDI).	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other All-female sample Possible experimental bias effect, as principal authors provided training and supervision of all treatment

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Gersons, Carlier, Lamberts, & van der Kolk, 2000 **Level A** Amsterdam, The Netherlands	Individual trauma: Dutch police officers with PTSD	Mean of 4 years since trauma while on police duty, specific type of trauma not specified. Mean number of traumas in line of police work was 19 for brief eclectic psychotherapy group and 15 for waitlist group. Assessments done 1 week pre-treatment, after session 4, after last session, and 3 months follow-up.	Individual intervention: Randomly assigned to either 16-session manualized brief eclectic psychotherapy (which combines CBT and psychodynamic techniques) or to waitlist control: 1. 16 weekly 1-hour sessions of brief eclectic psychotherapy, a manualized treatment which combines CBT and psychodynamic techniques (n=22). 2. 7-month waitlist control (n=20).	No differences between groups at pre-test or after session 4. At post-test (end of 16-week treatment) and follow-up (3 months post-termination), brief eclectic psychotherapy group showed significant improvement in PTSD and anxiety symptom (SI-PTSD, SCL-90, ADIS-R), work resumption, and some co-morbid conditions.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Other Lacks comparison treatment condition 4 waitlist pts spontaneously mentioned treatment condition to blind assessors No dropouts—participants were highly motivated for treatment and were a treatment-seeking group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Ironson, Freund, Strauss, & Williams, 2002 **Level A** United States	Individual trauma: Varied Primarily rape and crime victims Male and female	Does not specify how long since trauma. Assessments took place pre, post and 3-month follow-up.	Individual intervention: 1st three sessions identical for both groups. 1st session = assessment, 2nd and 3rd sessions = psycho-education regarding normal reactions to trauma, construction of in vivo hierarchy. 1. Sessions 4-6 of EMDR, supplemented with in vivo homework and relaxation homework (n=10).	Both PTSD (PSS-SR) and depression scores (BDI) decreased equally in both treatments, at post-test and at 3-month follow-up. Reduction in PTSD symptom was faster in EMDR condition, and dropout rate was significantly lower in EMDR condition.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Unmet Standards 3) Blind evaluators Other Lacks untreated control group Small sample size Despite random assignment, psycho-education pts reported higher baseline BDI scores
Lange, van de Ven, Schrieken, & Emmelkamp, 2001 **Level A** Amsterdam, The Netherlands	Individual trauma: Varied traumatic events among undergraduate men and women in the Netherlands	M= 6 years post-trauma at assessment 1 and at treatment. Assessments took place pre- and post-treatment, and at 6-week follow-up.	Individual intervention: 1. CBT, writing-based protocol administered over the internet. Experimental group consisted of 5 weeks of 10 writing sessions, two 45-minute sessions per week (n=13). 2. Waitlist control group (n=12).	At post-treatment, intrusion and avoidance symptoms significantly lower in the experimental group (IES), general psychopathology scores (SCL-90) lower in the experimental group, more improvement in mood scores (POMS). Gains were maintained or improved upon at the 6-week follow-up.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 7) Treatment adherence

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Other Lacks comparison treatment group Small sample size Self-report measures only
Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998 **Level A+** London, England	Individual trauma: Varied (28% physical assault, 20% road accident, 15% witnessing, 8% non-road accident, 6% sexual assault, 5% held hostage, 5% bombing, 3% combat, 11% miscellaneous)	Treatment: M: 4.5 years prior to treatment Assessments: M = 0, 6, and 11 (post-treatment) weeks, and at 1-, 3-, and 6-month follow-up thereafter.	Individual intervention: Ten 1.5-hour treatment sessions over 16 weeks: 1. Exposure treatment (n=20). 2. Cognitive restructuring (n=18). 3. Combination treatment (n=19) *105-minute sessions. 4. Relaxation (n=20) (placebo control for therapist contact).	Cognitive restructuring, exposure treatment, and combination treatment were all better than relaxation control and otherwise equal at post-treatment and 6-months on most measures. On CAPS, combination treatment was inferior to either individual treatment.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Despite randomization, at trial entry, E and R were less severe on some baseline measures than C and EC
Resick & Schnicke, 1992 **Level B** United States	Individual trauma: Female sexual assault survivors	*At least 3 months post-assault (M=6.4 years; SD=6.9)* Assessments took place at pre-treatment, post-treatment, 3- and 6-month follow-up	Group intervention: 1. Twelve 1.5-hour weekly sessions of CPT (n=19). 2. No-treatment, waitlist control (n=20).	CPT group showed decreased PTSD and (SCID, SCL-90-R, IES) depression (SCID, SCL-90-R, BDI) scores compared to waitlist controls at post-treatment. Treatment gains maintained at 6-month follow-up.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 3) Blind evaluators 6) Random assignment 7) Treatment adherence

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Other All-female sample Lacks comparison treatment group Therapists completed some of the assessment measures – possible experimenter bias
Resick, Jordan, Girelli, Hutter, & Marhoefer-Dvorak, 1990 **Level B** United States	Individual trauma: Female sexual assault survivors	At least 3 months post-assault (range 3 months – 34 years; M=5 years, SD=7.7 years). Assessments took place at pre-treatment, post-treatment, 3- and 6-month follow-up.	Group intervention: 1. Six 2-hour weekly group sessions of either stress inoculation, assertion training, or supportive psychotherapy (n=37). 2. No-treatment, waitlist control (n=13).	All three types of therapy were effective in producing lasting improvement, particularly with fear and anxiety, and with assertiveness, self-esteem, self-concept, and depression to a lesser extent (SCL-90-R, MFS, TSCS, ASES, IES), compared to waitlist controls. None of the three treatment types superior. Treatment gains maintained at 6-month follow-up.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 7) Treatment adherence (partially met) Unmet Standards 6) Random assignment Other All-female sample
Rothbaum, 1997 **Level A+** United States	Individual trauma: Female sexual assault survivors	At least 3 months post-assault	Individual intervention: 1. Four 1.5 hour weekly individual sessions of EMDR (n=10). 2. No-treatment, waitlist control (n=8).	EMDR-treated participants showed greater improvement on PTSD (PSS) and depression (BDI) from pre- to post-treatment.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					6) Random assignment 7) Treatment adherence Other All-female sample Lacks comparison treatment group Small sample size Single therapist
Tarrier, Pilgrim, Sommerfield, Faragher, Reynolds, Graham, & Barrowclough, 1999 **Level A** Manchester, England	Individual trauma: Varied (52% crime, 34% accident, 15% other) Adult male and female pts referred from primary and secondary health services organizations	Time of trauma: 34% < 12 months; 40% between 12–24 months; 26% > 24 months. Duration of PTSD had to be at least 6 months but not more than 10 years, to be included in the study. Pts included in the study only if they continued to meet criteria for PTSD after 4 weeks of self-monitoring of PTSD symptom and discussion of monitoring in outpatient appointments. Assessments took place at pre-treatment, post-treatment, and 6-month follow-up.	Individual intervention: 1. Cognitive treatment (n=33). Mean of 12 individual sessions over 24 weeks. 2. Imaginal exposure treatment (n=29). Mean of 10 individual sessions over 24-weeks.	Cognitive treatment and imaginal exposure both showed significant improvements at post-treatment and follow-up, relative to pre-treatment, with no differences between them (CAPS, IES, BDI, BAI). Between pre- and post-treatment, more imaginal exposure pts showed a worsening of PTSD symptoms on the CAPS (9 imaginal exposure pts vs. 3 cognitive treatment pts). This effect was not evident at the 6-month follow-up.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 6) Random assignment 7) Treatment adherence Unmet Standards 5) Manualized, replicable, specific treatment programs Other Lacks untreated/waitlist control Two principal investigators conducted all treatments: Possible theoretical bias? Although treatment was planned to take 16 sessions weekly, average attendance in both groups was once every 2 weeks, averaging 24 weeks

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Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Brom, Kleber, & Defares, 1989 **Level A** Amsterdam, The Netherlands	Individual trauma: Varied traumatic events; primarily loss of loved one. 83 of 112 participants (74%) had lost loved one to murder or suicide. Inclusion criteria: DSM-III criteria for PTSD.	No more than 5 years post-trauma Assessments took place pre-treatment, post-treatment, and at 3-months after treatment.	Individual intervention: 1. Systematic desensitization (n=31, m=15 sessions). 2. Hypnotherapy (n=29, m=14 sessions). 3. Psychodynamic treatment (n=29, m=19 sessions). 4. Waitlist control (n=23).	All treatments equally significant and better than waitlist control on trauma symptom (IES). General drop in level of general distress, anxiety and anger (SCL-90, STAI, STAXI) in the treatment groups. Non-significant changes in general distress in control group.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 6) Random assignment Unmet Standards 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 7) Treatment adherence
Mawson, Marks, Ramm, & Stern, 1981 **Level B** London, England	Individual trauma: Bereavement 11 of the 12 subjects were women Inclusion criteria: "persistent distress of over 1 year duration since the loss, or which had been greatly exacerbated by the loss," plus two or more of a list of symptoms of complicated grief reactions (e.g., anniversary reaction, avoidance behavior toward deceased, excessive guilt or hostility towards deceased or those involved with deceased).	Death occurred between 1-10 years prior to assessment (median = 3 years). Treatment provided within 2 weeks of initial assessment.	Individual intervention: 6 individual 1.5-hour sessions over the course of 2 weeks. Supportive follow-up until 28 weeks after entering trial. 1. "Guided mourning" treatment, encouraged to face cues concerning their bereavement (n=6). 2. Control treatment, asked to avoid bereavement cues (n=6).	Patients self-rated at weeks 0, 2, 4, 8, 10, 28 on measures of grief, depression, anxiety, and social adjustment. Patients in both groups improved between weeks 0 and 4 on depression (Wakefield), hostility-anger-guilt scale, bereavement-avoidance task performance, and difficulty thinking about the deceased. Pts in experimental group improved more by week 4 on phobic avoidance, bereavement avoidance-task performance and distress, and by week 10 on TRIG. Improvements maintained at 10 and 28 weeks. Patients in control group did not improve more	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures (partially met) 4) Assessor training 5) Manualized, replicable, specific treatment programs (partially met) 6) Random assignment Unmet Standards 3) Blind evaluators 7) Treatment adherence Other Primarily female sample Lacks untreated control group Very small sample size All measures self-report

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
				than experimental group on any measure.	

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Murphy et al., 1998 **Level A** United States	Individual trauma: Parents bereaved by violent deaths of 12–28 year old children	Treatment offered 4 months post-homicide, suicide, or accident Assessments given pre-intervention, immediately post, and at 6-month follow-up	Group therapy: 1. 12-week group therapy protocol, with 1st and last sessions used for orientation and data collection. The other 10 sessions were 2 hours long, with info-giving and skill-building during 1st hour and "emotion-focused support" during 2nd hour (n=153). 2. Waitlist control group (n=108).	For mothers: 6 months post-treatment, no differences between intervention or control groups on overall distress (BSI), PTSD total score (TES), physical health status (HHB) or marital satisfaction (DAS). Control group showed lower grief responses (GES) at 6 months. For mothers with high GSI and grief at baseline, those in intervention group improved more than those in control group. In contrast, those with low GSI and grief at baseline did worse than those in control group. For fathers: 6 months post-treatment, control group showed lower overall distress. No differences in PTSD, grief responses, physical health, or marital satisfaction at 6 months between intervention and control groups.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators Other Lacks comparison treatment group Self-report measures only

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Raphael, B., 1977 **Level A–** Sydney, Australia	Individual trauma: Bereavement Female widows recruited from Social Security Dept, where they had applied for benefits. Widows selected for the study were deemed to be at high risk, based on: (a) high level of perceived non-supportiveness in social support network, (b) moderately unsupportive social network with traumatic circumstances of death, (c) ambivalent marital relationship and traumatic death, and (d) concurrent life crises.	Initial assessment and treatment within the first 7 weeks following the deaths of their husbands. Subjects completed follow-up assessment, 13 months after completion of treatment.	Individual intervention: High-risk individuals (e.g., traumatic death, low social support, concurrent life crisis) were randomly assigned to individual treatment or no-intervention control group. 1. Treatment was nondirective, supportive. Goal was "promotion of normal grieving – expression of bereavement effects, and the accomplishment of a significant degree of mourning." Treatment was individual, provided by the principal investigator in participants' homes. Mean number of sessions was 4, with range of 1–9 (n=27). 2. Untreated control group (n=29).	At 13 month follow-up: The intervention group showed less health impairment on a "general health questionnaire" compared to matched control group. More doctor visits for general symptoms in the control group. More weight loss, more increased smoking, greater frequency of increased intake of etoh in control group.	Standards Met 2) Reliable and valid measures (partially met) 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Other All-female sample Lacks comparison treatment group "Slight tendency" for there to be more younger widows and younger husbands in the intervention group Self-report measure only, reliability/validity data not reported

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Reynolds, Miller, Pasternak, Frank, Perel, Cornes, Houck, Mazumdar, Dew, & Kupfer, 1999 **Level A** United States	Individual trauma: Bereavement Adult men and women with onset of major depressive episode between 6 months prior to 12 months after death of significant other	Mean time post-bereavement was 8 months	Individual intervention: 16-week, double-blind trial of four treatment conditions. 1. Medication clinic, nortriptyline (n=25). 2. Medication clinic, placebo (n=22). 3. Interpersonal treatment plus nortriptyline (n=16). 4. Interpersonal treatment plus placebo (n=17).	No differential effect of any treatment condition on bereavement intensity (TRIG, ICG). Nortriptyline was superior to placebo in achieving remission of bereavement-related major depressive episodes (HAM-D, BDI, GAS). Combination of medication and treatment was associated with highest rate of treatment completion.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Unmet Standards 3) Blind evaluators Other One co-investigator provided treatment in med clinic. Possible experimental bias. Study protocol required that the double-blind be broken if patients did not show improvement by 8 weeks. May have obscured possible main effect of the therapy condition. Placebo medication clinic associated with 45% rate of remission, suggesting non-specific factors associated with med clinic also may have been a confound. Evaluators were not entirely blind throughout study.

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Shear, Frank, Foa, Cherry, Reynolds, Bilt, & Masters, 2001 **Level B** United States	Individual trauma: Adult men and women who had experienced variety of types of traumatic bereavement Inclusion criteria: scored > 25 on ICG	Subjects were at least 3 months post-loss of significant other. Mean time since death was 2.9 years.	Individual intervention: Pilot study – treatment for traumatic grief used strategies from interpersonal treatment for depression and cognitive behavioral treatment for PTSD. Treatment rooted in imaginal exposure to death scene and in vivo exposure to avoided activities and situations, and interpersonal therapy. Manualized treatment designed to be delivered in approximately 16 sessions over 4 months (n=21).	Significant and very large pre-treatment—post-treatment differences found for ICG scores in both the completer group (n=13) and the intent-to-treat group (n=21). Also reductions in BAI and BDI in both intent-to-treat and completer groups. Mean decrease in ICG scores in intent-to-treat group was nearly twice that observed in prior study of depressed pts whose scores were consistent with traumatic grief and who received interpersonal treatment only.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other There was no comparison treatment or untreated condition High dropout rate: 8 of 21 subjects dropped out after one or more sessions
Sireling, Cohen, & Marks, 1988 (extension and replication of Mawson et al., 1981) **Level A** London, England	Individual trauma: Bereavement Men and women between ages of 16–70, most prominent symptoms had to relate in time and content to loss of a significant other and needed to have persisted more than 1 year	At least 1 year post-loss to be eligible for study Mean time post-loss not reported. Assessments at weeks 0, 2, 14, 28, 54	Individual intervention: 10 weekly 1–1.5-hour sessions, with a 4-week interval between sessions 9 & 10, of either: 1. "Guided mourning" – used exposure to cognitive, affective, and behavioral cues concerning bereavement. Encouraged ventilation of negative feelings (n=14). 2. "Anti-exposure" – encouraged pts to "get on with life," not to think about the loss, avoid anything painful connected with the	Both groups improved on a variety of measures (anxiety, anger, general health, general distress, depression) up to the 9-month follow-up. The only differences between the groups were in avoidance and distress to bereavement cues, with the guided mourning group showing more improvement in these specific areas.	Standards Met 1) Clearly defined target symptoms (partially met) 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs (partially met) 6) Random assignment Unmet Standards 7) Treatment adherence Other Lacks untreated control group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
			loss, think about the future rather than dwell on the past (n=12).		All measures were self-report
Vachon, Lyall Rogers, Freedman-Letofsky, & Freeman, 1980 **Level A** Ontario, Canada	Individual trauma: Bereavement All female widows, ages 67 and younger. No specific inclusion criteria in terms of symptoms. Median age = 52 years, range of 22–69	Assessments at 1, 6, 12, 24 months after husband's death.	Mixed individual/group intervention: 1. Intervention group was assigned a "widow contact" for support, indefinitely. Initially held one-to-one meetings, eventually also included small group meetings. Contact in person and by phone (n=24). 2. No treatment control group (n=38).	Positive change on interpersonal adaptation, 12 months post-bereavement: 92% of intervention vs. 66% control. 24 months post-bereavement: significant reduction in Goldberg GHQ, 58% (intervention) vs. 23% (control).	Standards Met 2) Reliable and valid measures 4) Assessor training 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Other All-female sample Lacks comparison treatment group Self-report measures only

Table 7. Recent and well-controlled studies of medications for PTSD

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Brady, Pearlstein, Asnis, Baker, Rothbaum, Sikes, & Farfel, 2000 **Level A+ Sertraline** United States	Individual trauma: Varied Excluded: psychotic disorder, organic mental disorder, malingering, bipolar disorder, alcohol or substance use, use of any psychotropic medicine, primary diagnosis of major depression, obsessive-compulsive disorder, anxiety disorder, or psychotherapy initiated or ended during the trial.	Minimum of 6 months duration of PTSD	Individual medication: 12 weeks of double-blind, RCT, flexible-dose: 1. Sertraline (n=94). 2. Matched placebo (n=93).	Sertraline yielded greater improvement than placebo on 3 of 4 primary outcome measures – CAPS-2 total score, CGI-S, CGI-I. Trend towards significance on the IES total score. 53% of sertraline pts vs. 32% of placebo pts were much or very much improved at treatment end point (p=.008 vs. placebo), with 70% of reduction in PTSD symptom severity on CAPS-2 and IES achieved within first 4 wks of drug treatment. Sertraline had significant efficacy vs. placebo on the CAPS-2 clusters of avoidance/numbing (p=.02) and increased arousal (p=.03), but not on re-experiencing/ intrusion (p=.14).	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other 75% female sample Lacks comparison treatment condition 30% noncompliance drop-out of both conditions
Connor, Sutherland, Tupler, Malik, & Davidson, 1999 **Level A+ Fluoxetine** United States	Individual trauma: Varied Non-combat related Adult and predominantly female sample with DSM-V criteria for PTSD. Excluded: psychotic disorder, bipolar disorder, antisocial personality	Median years of PTSD = 6 years	Individual medication: 12 weeks of: 1. Fluoxetine (n=27). 2. Placebo (n=26).	PTSD severity (DTS) scores lower in fluoxetine group at weeks 4, 6, 10, 12. By week 12, fluoxetine group lower on measures of PTSD severity (DTS, Duke, SI-PTSD), disability and stress vulnerability (SDS, VS). Drug vs. placebo effects were most evident in the	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
	disorder, risk of suicide/homicide alcohol/substance use.			less chronic PTSD group. Placebo response rate higher in the more longstanding PTSD group.	Other Primarily female sample Lacks comparison treatment condition Non-combat related trauma only Relatively small sample size No long-term follow-up noted
Davidson, Pearlstein, Londborg, Brady, Rothbaum, Bell, Maddock, Hegel, & Farfel, 2001 **Level A+ Sertraline** United States	Individual trauma: Varied 96 responders who completed phases 1 and 2 of larger sertraline study. They completed 12 weeks of double-blind, placebo-controlled acute-phase treatment and subsequent 24-week open-label study of continuation treatment with sertraline. Patients were randomly assigned in double-blind design to 28 weeks of maintenance treatment with sertraline.	Minimum 6 months of PTSD; mean duration of PTSD was 12.2 years in sertraline treatment group; 13.9 years in placebo treatment group.	Individual medication: Randomly assigned in double-blind fashion to 28 weeks of maintenance treatment with: 1. Sertraline (50-200 mg, n=46). 2. Placebo (n=50).	Continued treatment with sertraline yielded lower PTSD relapse rates than placebo (5% vs. 26%) as measured by combination of CAPS, CGI, investigator opinion on two consecutive clinic visits. Pts who received placebo were 6.4 times as likely to experience relapse as were pts receiving sertraline. Sertraline-related adverse events were below 10%.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Primarily female sample Lacks comparison treatment condition
Davidson, Rothbaum, Van der Kolk, Sikes, & Farfel, 2001 **Level A+ Sertraline** United States	Individual trauma: Varied Excluded: Psychotic disorder, organic mental disorder, malingering, bipolar disorder, alcohol or substance use, use of any psychotropic medication, primary diagnosis of	Minimum 6 months of PTSD, average of 18 years	Individual medication: 12 weeks of double-blind, RCT, flexible-dose: 1. Sertraline (n=98). 2. Placebo (n=104).	Significantly steeper improvement slopes on PTSD symptoms in sertraline group (CAPS-2, IES, CGI-I, CGI-S). 60% responder rate for sertraline vs. 38% responder rate for placebo. 40–50% reduction of	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
	major depression, obsessive-compulsive disorder, anxiety disorder, or CBT initiated or ended during the trial.			PTSD severity, 70% of which occurred in first 4 weeks. Rapid and significant improvement in social and occupational functioning. 9% discontinuation rate due to medication-related adverse events, vs. 5% for placebo.	6) Random assignment 7) Treatment adherence Other Approximately 30% drop-out of both conditions Primarily female sample Lacks comparison treatment condition
Gelpin, Bonne, Peri, Brandes, & Shalev, 1996 **Level B Clonazepam and Alprazolam** Israel	Individual trauma: Varied All consecutive ER admissions who had undergone a traumatic event and met DSM-III-R PTSD Criterion A were assessed. Those who reported "excessive distress" (e.g., panic, agitation, persistent insomnia) at week 1 were offered high-potency benzodiazepines. Of 162 subjects evaluated for larger study, 13 (8%) were judged by psychiatrist to require benzodiazepines.	Medication introduced at mean of 7 (SD=6) days post-trauma	Individual medication: 1. Treatment with benzodiazepines (either clonazepam, n=10 or alprazolam, n=3). All 13 subjects took meds for at least 1 month, 9 continued meds for full 6 months of study. 2. Subjects matched with same-gender controls who had similar week 1 IES score, from larger study of PTSD, drawn from ER.	Participants in the BZ group did not differ from controls in 1-month and 6-month PTSD (IES, MISS) and anxiety scores (STAI). Repeated measures ANOVA showed no group or group by time effect on psychometric measures. Nine BZ subjects and three controls met PTSD diagnostic criteria 6 months post-trauma (CAPS).	Standards Met 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Unmet Standards 1) Clearly defined target symptoms 6) Random assignment Other Small sample size Control group not matched on age

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Herizberg, Butterfield, Feldman, Beckham, Sutherland, Connor, & Davidson, 1999 **Level A** **Lamotrigine** United States	Mixed individual/ collective trauma: Adult male and female pts who met criteria for PTSD, recruited from treatment centers Varied trauma – primarily combat or sexual violence	Not reported	Individual medication: 12 weeks of: 1. Lamotrigine (n=11). 2. Placebo (n=4).	In the experimental group, 50% of patients improved on the Duke vs. 25% of pts in control condition. Pre-post improvement seen in experimental group on re-experiencing and avoidance symptom, but not in control group.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 7) Treatment adherence Other Very small sample size with unequal groups; (pilot study) Lacks comparison treatment condition
Londborg, Hegel, Goldstein, Goldstein, Himmelhoch, Maddock, Patterson, Rausch, & Farfel, 2001 **Level B** **Sertraline** United States	Individual trauma: Varied 252 patients who had completed 12 weeks of double-blind, placebo-controlled, acute-phase treatment were continued into 24-week open-label continuation phase. This study reports on 128 patients who were assigned in the first study to the sertraline condition (124 who had been given placebo in initial phase of study were not included in these analyses).	Minimum 6 months of PTSD, mean duration of PTSD for women in study was 11.4 years, for men was 17 years	Individual medication: 128 patients initially treated with sertraline in the acute-phase feeder studies (Brady et al. 2000, Davidson et al., 2001) continued in this open-label sertraline treatment phase of the larger studies.	92% of acute-phase responders maintained their response during the full 6 months of continuation treatment. 54% of acute phase non-responders converted to responder status (> 30% decrease in CAPS-2 total severity score) during continuation therapy. A high pre-treatment CAPS-2 score (>75) predicted a longer time to response and a greater likelihood that response occurred after 12 weeks of acute treatment.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Unmet Standards 3) Blind evaluators 6) Random assignment Other Lacks placebo control group/alternative treatment in this phase of study

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					74% of the sertraline-treated patients were women. High drop-out rate of 40%, (but only 9% due to adverse medication effects) Open-label

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Marshall, Beebe, Oldham, & Zaninelli, 2001 **Level A** **Paroxetine** United States	Individual trauma: Varied	Mean years of PTSD = 15.7	Individual medication: Randomly assigned to 12 weeks, fixed-dose, double-blind treatment with: 1. Placebo (n=186). 2. Paroxetine, 20 mg (n=183). 3. Paroxetine, 40 mg (n=182).	Paroxetine-treated patients in both dose groups showed greater improvement on primary outcome measures (CAPS-2, CGI) compared to placebo-treated pts. Paroxetine treatment resulted in more improvement on all 3 symptom clusters (CAPS-2, DTS), on social and occupational impairment (SDS), and comorbid depression (MADRS). Treatment response did not vary by trauma type, time since trauma, or severity of baseline PTSD or depressive symptoms. Medication was effective with both men and women.	<u>Standards Met</u> 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment <u>Unmet Standards</u> 7) Treatment adherence <u>Other</u> No long-term follow-up Medication trial of 12 weeks may not have been long enough to see full treatment effects

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Petty, Brannan, Casada, Davis, Gajewski, Kramer, Stone, Teten, Worchel, & Young, 2001 **Level B** **Olanzapine** United States	Collective trauma: Combat-induced PTSD 91% Vietnam 9% Persian Gulf	Mean duration of PTSD diagnosis was 6 years prior to study entry, with range of 1–17 years	Individual medication: Patients completed 8-week trial of olanzapine (n=30).	PTSD (CAPS) decreased by approximately 30%. Depression (HAM-D) and anxiety (HAM-A) scores decreased by 30% and 31%, respectively. BPRS total score decreased by 23%. Each CAPS symptoms cluster subscale improved significantly from baseline. Improvement on intrusive symptom on the CAPS was independent of improvement on the depressive and anxiety symptoms.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other No placebo or comparison treatment condition Limited to male combat vets Open-label High dropout rate (34 %)
Pitman, Sanders, Zusman, Healy, Cheema, Lasko, Cahill, & Orr, 2002 **Level A** **Propranolol** United States	Individual trauma: Adult, varied	Medication given within 6 hours of index trauma First full assessment given 1 month post-trauma	Individual medication: 1. 10-day course of double-blind propranolol, 40mg, 4 x daily (n=11). 2. 10-day course of placebo control (n = 20).	Groups did not differ on PTSD (CAPS) at 1 or 3-month assessments. 0% of the propranolol vs. 43% of the placebo patients were classified as physiological responders in physiological assessment 3 months post-trauma.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 7) Treatment adherence Other Lacks comparison

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					treatment condition Limited statistical power (pilot study) Differential attrition in experimental group Possible differential nurse attention to experimental group
Sernyak, Kosten, Fontana & Rosenheck, 2001 **Level C** **Neuroleptics** United States	Collective trauma: Male veterans seeking treatment for combat-related PTSD	Duration of trauma symptoms not reported, but traumas were combat-related.	Individual medication: Secondary analysis of an observational outcome study of 831 inpatients and 554 outpatients receiving treatment for combat-related PTSD. Patients classified into groups based on VA records: 1. Patients who were never prescribed neuroleptics during the course of their 1 year in the study. 2. Patients who received neuroleptics at one or more time point during the year of the study.	Outcomes after one year were not significantly different in the group treated with neuroleptics and the group that did not receive them. At 12 months, no significant changes on measure of PTSD (Miss), number of psychiatric symptoms, etoh/drug use, or employment, or overall subjective distress in the neuroleptic group. The non-neuroleptic group showed significant improvement only in drug/etoh use.	<u>Standards Met</u> 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training <u>Unmet Standards</u> 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence <u>Other</u> Those veterans who were given neuroleptics were more seriously impaired at baseline Sample comprised of male veterans only Large difference in the size of the 2 groups—limited statistical power Open-label

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Tucker, Zaninelli, Yehuda, Ruggiero, Dillingham, & Pitts, 2001 **Level A** **Paroxetine** United States	Individual trauma: Varied	Mean years of PTSD: 16 in placebo group 14 in paroxetine group	Individual medication: Randomly assigned to 12 weeks of double-blind treatment with: 1. Paroxetine (20-50mg, n=151). 2. Placebo (n=156).	At end of treatment, paroxetine group showed significantly greater reduction of PTSD symptom on CAPS-2, CGI-I, DTS, TOPS-8, MADRS, and SDS. Approximately 60% of paroxetine group reached response by 12 weeks vs. 40% of placebo group. Nearly 30% of paroxetine group achieved remission vs. nearly 20% of placebo patients. Significantly greater improvement on CAPS-2 was seen at 4 wks in the paroxetine group, and significantly greater proportion of paroxetine-treated patients achieved response ($p<.001$) and remission ($p=.008$) by week 12.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 7) Treatment adherence Other Lacks comparison treatment group High drop-out rate of 40% in both groups
Van der Kolk, Dryfuss, Michaels, Shera, Berkowitz, Fisler, & Saxe, 1994 **Level A** **Fluoxetine** United States	Individual trauma: Varied Adult men and women Excluded: Psychotic disorder, organic mental disorder, alcohol or substance use, use of any psychotropic med for 2 weeks prior to study, prior treatment with fluoxetine, clinically significant physical condition.	Not reported, but the majority of participants had either been in Vietnam War or experienced childhood abuse, so on average several decades had passed since the index trauma.	Individual medication: Double-blind, randomized trial of 5 weeks of either: 1. Fluoxetine (n=33). 2. Matched placebo (n=31).	Significant reduction in CAPS score, primarily in numbing and arousal in fluoxetine group. Significant reduction in depression (HAM-D) in fluoxetine group. Significant reduction in affect deregulation, distorted relationships, and loss of sustaining beliefs (SIDES). Results showed reduction	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment Unmet Standards 7) Treatment adherence

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
				in PTSD symptoms only in trauma clinic population of more recently traumatized, previously untreated subjects, not in veterans.	Other Lacks comparison treatment group 5 weeks may not have been long enough to see full effect of the medication No long-term follow-up

Table 8. Studies of children/adolescents with trauma symptoms related to single incident stressors, including disasters

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Chemtob, Nakashima, & Carlson, 2002 **Level A+** Hawaii, United States	Collective trauma: Children exposed to Hurricane Iniki. Population of elementary public school children screened for disaster-related symptoms. The most symptomatic children were randomly assigned to 1 of 3 treatment groups for brief, school-based psychosocial intervention. Current study group comprised of those children who continued to have disaster-related PTSD 1 year post-initial group (3 years post hurricane). 32 children of 40 potentially eligible children participated.	3.5 years post-hurricane Assessments took place pre-treatment, post-treatment, and at 6-month follow-up	Individual intervention: Randomized lagged groups design, initial assessment session, followed by 3 weekly EMDR sessions: 1. Immediate treatment (n=17). 2. Delayed treatment (n=15).	Substantial reductions in PTSD symptoms (CRI). Significant but more modest reductions in anxiety (R-CMAS) and depression (CDI) scores. 56% of the children in the study no longer met criteria for PTSD after treatment. Those children who lost their PTSD diagnoses showed a significant reduction in visits to the school nurse.	<u>Standards Met</u> 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence <u>Other</u> Lacks comparison treatment group Small sample size
Field, Seligman, Scafidi, & Schanberg, 1996 **Level A–** United States	Collective trauma: Child survivors of Hurricane Andrew	Pre-test and treatment offered 1 month after hurricane Assessments at pre- and post-treatment	Individual intervention: 1. 30 minutes of back massage therapy, 2 × week for 1 month (n=30). 2. 30 minutes attention control condition (viewing videotape with graduate student), 2 × week for 1 month (n=30).	Children in massage therapy condition showed greater reductions in anxiety (RCMAS) and depression, (CESD) and showed greater increases in relaxation levels than children in video control group.	<u>Standards Met</u> 2) Reliable and valid measures (partially met) 6) Random assignment <u>Unmet Standards</u> 1) Clearly defined target symptoms 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 7) Treatment adherence

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Other Lacks comparison treatment group No long-term follow-up Lacks dependent measure of PTSD, primarily self-report measures
Goenjian, Karayan, Pynoos, Minassian, Najarian, Steinberg, & Fairbanks, 1997 **Level B–** Armenia	Collective Trauma: Adolescents exposed to earthquake in Armenia Adolescents in two schools were given treatment, adolescents at two comparable schools without treatment served as the control	Assessment and treatment took place 1.5 years after earthquake, follow-up assessment at 3 years post-earthquake	Mixed group/individual: 1. Four 30-minute trauma/grief-focused treatment groups; Two 1-hour individual sessions. (n=35). 2. Non-treatment control (n=29).	Severity of PTSD symptoms (Child PRI) decreased in treatment group, while depressive symptoms (SR) did not change. PTSD and depressive symptoms worsened in non-treatment group.	Standards Met 2) Reliable and valid measures 4) Assessor training Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators (not reported) 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Other Lacks comparison treatment group Self-report measures only
March, Amaya-Jackson, Murray, & Schulte, 1998 **Level B** United States	Individual trauma: Children and adolescents with single-incident stressors (e.g., fires, gunshot wounds, motor vehicle accidents)	Not reported: average duration of PTSD symptoms for younger and older subjects was 1.5 years and 2.5 years, respectively Assessments took place pre-treatment, post-treatment, and at 6-month follow-up	Group intervention: 18-week, group administered CBT protocol using a single case across time and setting experimental design (n=17).	57% of group completers no longer had PTSD (CAPS-C) post-treatment. 86% of completers no longer had PTSD at 6-month follow-up. Depression, anxiety, and anger also decreased.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					6) Random assignment (partially met) 7) Treatment adherence <u>Unmet Standards</u> 3) Blind evaluators <u>Other</u> Lacks control or comparison group (single case across setting design) Small sample size Children selected for study were perceived as being motivated to work on PTSD, and scoring low on disruptive behavioral problems

Table 9. Studies of traumatic bereavement/complicated grief in children and adolescents

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Black & Urbanowicz, 1987 **Level A–** London, England	Individual trauma: Bereavement Children with one parent who had died	Death occurred 3–5 months prior to intervention. Follow-up interviews conducted 1 year and 2 years post-bereavement.	Family intervention: 1. 6 family therapy sessions, at 2-3 week intervals, 3-5 months after bereavement (n=21 families, 38 children). 2. No-treatment control group (n=24 families, 45 children).	At 1-year follow-up, the following factors were significantly *less* common in intervention group, based on clinical interview and Rutter A. Scale: (a) parent depressed, (b) restlessness in child, (c) nail biting in child, and (d) sought help from professional agency At 2-year follow-up, significant child findings have disappeared. Parents less likely to report health problems in the intervention group.	Standards Met 4) Assessor training 6) Random assignment Unmet Standards 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 5) Manualized, replicable, specific treatment programs 7) Treatment adherence Other Lacks comparison treatment group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Sandler et al., 1992 **Level A** United States	Individual trauma: Bereavement Children (ages 7–17) who experienced the death of a parent	Time since death at first interview, M=15 months, SD=7 months. Follow-up interview 6 months later.	Group/family intervention: 1. Immediate treatment (n=23). Treatment consisted of a 3-session workshop on grief attended by up to 8 bereaved families per session. This was followed by a 12-session family treatment focused on "parental demoralization," "parental warmth," "stable positive events," and "negative stress events." Manualized treatment. 2. 6-month delayed treatment control (n=29).	Treatment associated with increased parental perceptions of warmth in their relationship with their children (CRPBI), increased parental satisfaction with their social support, and decreased grief discussions. Treatment also associated with reduced parent reports of depression and conduct disorder problems for older children, but not younger children (CBCL). There were no differences between the groups in child reports of symptomatology.	Standards Met 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Unmet Standards 1) clearly defined target symptoms Other Lacks comparison treatment group
Salloum, Avery, & McClain, 2001 **Level B** United States	Individual trauma: Adolescent homicide survivors	Time since homicide ranged from 1 month to 10 years, with a mean of 2 years at intervention	Group intervention: 10-week community-based grief and trauma therapy group (n=45 adolescents began six groups at four different public schools; 37 adolescents completed the groups). Combination of psycho-education, coping skills, and support.	58% of the pre-test scores on the Child PRI were in the clinical range for PTSD; 22% of the post-test scores were in the clinical range. Significant reductions in the re-experiencing and avoidance clusters, but not in arousal symptoms.	Standards Met 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs Unmet Standards 1) Clearly defined target symptoms 3) Blind evaluators 6) Random assignment 7) Treatment adherence Other Lacks untreated control group and comparison treatment group

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
					Self-report measures only

Table 10. Studies of children/adolescents with trauma symptoms related to sexual or physical abuse (potential problems with generalizability to disasters)

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Berliner & Saunders, 1996 **Level A** United States	Individual trauma: Sexually abused male and female children with fear and anxiety symptoms, ages 4–13	Not reported Assessments at pre- and immediately post-treatment	Group intervention: 10 sessions of group treatment: 1. CSA-specific CBT (n=32). 2. CSA-specific CBT plus stress inoculation training and gradual exposure (n=48). (CSA=child sexual abuse)	Both groups improved on most outcome measures. No group differences on fear or anxiety symptoms (R-CMAS, FSSC-R).	Standards Met 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence Unmet Standards 1) Clearly defined target symptoms Other Lacks untreated/waitlist control Majority of children in the study did not have clinically significant levels of fear and anxiety at pre-treatment Two treatments both contained elements of stress inoculation training and gradual exposure
Cohen & Mannarino, 1996 **Level A+** United States	Individual trauma: Sexually abused male and female children, ages 3–7, with at least a WBR of 7 or sexually inappropriate behavior.	Most recent episode of sexual abuse occurred no more than 6 months prior to treatment Assessments at pre-, immediately post-, 1 year post-, 2 years post-treatment	Group intervention: Twelve 1.5-hour, weekly treatment sessions: 1. CBT-SAP – structured treatment for sexually abused preschoolers and their non-offending parents (n=39). 2. NST – supportive counseling with nonspecific treatment components not	Significantly greater reduction of symptoms/behavior in parent-report (CBCL, CSBI, WBR), and clinical findings, than in NST group. No differences in child report measure (PRESS) between groups.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 3) Blind evaluators 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
			directly addressing sexual abuse (n=28).		7) Treatment adherence Other Lacks untreated/waitlist control Child-report pre-treatment scores very low Several children removed from NST group prior to end of study
Deblinger, Lippmann, & Steer, 1996 **Level A** United States	Individual trauma: Male and female children, ages 7–13, with at least 3 symptoms of PTSD – one from each cluster	66% of children experienced child sexual abuse in last 6 months; 16% between 6 months–2 years, 18% 2 or more years ago	Group intervention: 12 weekly treatment sessions in the experimental groups 1. "Community control" = standard community care (n=21). 2. "Child intervention only" (n=22). 3. "Non-offending parent intervention only" (n=22). 4. "Combined non-offending parent and child" (n=24).	Mothers assigned to treatment (i.e., parent-only, parent/child) described greater decreases in their children's externalizing behaviors (CBCL). Their children showed greater improvement on depression scores (CDI). Significantly greater reductions in PTSD symptoms (K-SADS-E) in children assigned to child-only or parent/child treatments, compared to parent-only and community conditions.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Unmet Standards 3) Blind evaluators Other High variability in the type of community treatment received

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
Deblinger, Steer, & Lippmann, 1999 **Level A** United States	2-year follow-up of Deblinger, Lippmann, & Steer, 1996 (above)	See Deblinger, Lippmann, & Steer, 1996 (above)	See Deblinger, Lippmann, & Steer, 1996 (above)	Gains present at the post-test (externalizing behavior problems, depression, PTSD symptoms) remained at 3 months, 6 months, 1 year, and 2 years post-treatment.	Standards Met 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) Unmet Standards 3) Blind evaluators Other High variability in the type of community treatment received 25% to 32% missing data in long-term follow-up

Study/Level	Study Group	Interval between trauma and assessment	Conditions/n	Results	Gold Standards, Met and Unmet
King et al., 2000 **Level A** Australia	Individual trauma: Children ages 5.2–17.4 years who had been sexually abused, M = 11.4 years, 69% girls, 31% boys: To be eligible for study, children had to exhibit a total of at least three PTSD symptoms, including at least one of avoidance or re-experiencing	M=4.5 years post last sexual abuse experience at time of treatment and first assessment Range = 3 months to 8 years, 10 months	Mixed group/individual intervention: 1. Family CBT. Child protocol described below, plus non-offending parents received 20 weekly 50-minute sessions of training in child behavior management skills and parent-child communication skills (n=9). 2. Child-only CBT. 20 weekly 50-minute individual treatment sessions based on provision of coping skills and graded exposure (n=9). 3. Waitlist control (n=10).	Children in both treatment groups showed significant improvements in PTSD (child ADIS), fear (FT) and anxiety (R-CMAS) symptoms reported by child. Parents in the treatment groups reported more improvement in their children's PTSD symptoms (CBCL) than parents in the waitlist control group.	<u>Standards Met</u> 1) Clearly defined target symptoms 2) Reliable and valid measures 4) Assessor training 5) Manualized, replicable, specific treatment programs 6) Random assignment 7) Treatment adherence (partially met) <u>Unmet Standards</u> 3) Blind evaluators <u>Other</u> Small sample size Therapists completed some of the assessment measures – possible experimental bias

Appendix H:

Measures

ADIS-R Anxiety Disorders Interview Schedule – Revised (DiNardo and Barlow, 1988)

ARI Assault Reaction Interview *(Foa et al., 1991)*

ASES Adult Self-Expression Scale *(Gay et al., 1975)*

BAI Beck Anxiety Inventory *(Beck, 1990)*

BDI Beck Depression Inventory *(Beck, 1988)*

BSI Brief Symptom Inventory *(Derogatis, 1992)*

CAGE The Cage Questionnaire *(Ewing, 1984)*

CAPS Clinician Administered PTSD Scale *(Blake et al., 1990)*

CBCL Child Behavior Checklist *(Achenbach and Edelbrock, 1983)*

CDI Child Depression Inventory *(Kovacs, 1985)*

CESD The Center for Epidemiological Studies Depression Scale *(Radloff, 1977)*

CGI Clinical Global Impression Scale *(Guy, 1976)*

Child ADIS Child Version of the Anxiety Disorders Interview Schedule for DSM-IV *(Silverman and Albano, 1996)*

Child PRI Child PTSD Reaction Index *(Nader et al., 1990)*

CRI Children's Reaction Inventory *(Pynoos et al., 1987)*

CRPBI Children's Reports of Parental Behavior Inventory *(Schaefer, 1965)*

CSBI Child Sexual Behavior Inventory *(Friedrich et al., 1992)*

DAS Dyadic Adjustment Scale *(Spanier, 1976)*

DTS Davidson Trauma Scale *(Davidson et al., 1997a)*

Duke Duke Global Severity Rating for PTSD *(Davidson et al., 1998)*

FSSC-R Fear Survey Schedule for Children-Revised *(Ollendick, 1983)*

FT Fear Thermometer for Sexually Abused Children *(Kleinknecht and Bernstein, 1988)*

GAS Global Assessment Scale *(Endicott et al., 1976)*

GES Grief Experiences Scale *(Murphy et al., 1998)*

GHQ General Health Questionnaire *(Goldberg and Williams, 1988)*

HADS Hospital Anxiety and Depression Scale *(Zigm and Snaith, 1983)*

HAM-A Hamilton Rating Scale for Anxiety *(Hamilton, 1959)*

HAM-D Hamilton Rating Scale for Depression *(Hamilton, 1960)*

HCQ Health Change Questionnaire *(Maddison and Walker, 1967)*

HHB Health Status/Health Behaviors Scale *(Murphy et al., 1998)*

ICG Inventory of Complicated Grief *(Prigerson et al., 1995)*

IES Impact of Event Scale *(Horowitz et al., 1979)*

K-SADS-E Schedule for Affective Disorders and Schizophrenia for School-Age Children *(Orvaschel et al., 1982)*

Langner Langner Scale of Psychiatric Symptoms *(Langner, 1962)*

Langsley Langsley Symptom Scale *(Langsley et al., 1971)*

MADRS Montgomery-Asberg Depression Rating Scale *(Montgomery and Asberg, 1979)*

MFS	Veronen-Kilpatrick Modified Fear Survey *(Veronen and Kilpatrick, 1980)*
Miss	Mississippi Rating Scale for Combat-Related PTSD-civilian trauma version *(Keane et al., 1988)*
NAS	Negative Affect Scale *(Bradburn, 1969)*
PAS	Positive Affect Scale *(Bradburn, 1969)*
PDS	Post-traumatic Stress Diagnostic Scale *(Foa, 1995)*
POMS	Profile of mood states *(Wald and Mellenbergh, 1990)*
PRESS	The Pre-School Symptom Self-Report *(Martini et al., 1990)*
PSS	Posttraumatic Stress Disorder Symptom Scale *(Foa et al., 1993)*
PTSS-10	Post-traumatic Symptom Scale – 10 *(Weisaeth and Mehlum, 1993)*
R-CMAS	Revised Children's Manifest Anxiety Scale *(Reynolds and Richmond, 1985)*
Rutter	Rutter Behavior Scales *(Rutter et al., 1970)*
SAS	Social Adjustment Scale *(Weissman and Paykel, 1974)*
SCID	Structured Clinical Interview for DSM-III-R *(Spitzer et al., 1987)*
SCL-90	Symptom Checklist-90 *(Derogatis, 1977)*
SDS	Sheehan Disability Scale *(Sheehan, 1983)*
SELF-C	Self-Efficacy Questionnaire *(Solomon et al., 1988)*
SEQ	Spielberger Self Evaluation Questionnaire *(Spielberger et al., 1983)*
SIDES	Structured Interview for Disorders of Extreme Stress *(Pelcovitz et al., 1997)*
SI-PTSD	Structured Interview for PTSD *(Davidson et al., 1997b)*
SSPSDS	Scale of Severity of Post-traumatic Stress Disorder Symptoms *(Echeburua et al., 1994)*
STAI	State-Trait Anxiety Inventory *(Spielberger et al., 1970)*
STAXI	State Trait Anger Inventory *(Spielberger, 1991)*
TSCS	Tennessee Self Concept Scale *(Fitts, 1965)*
TES	Traumatic Experiences Scale *(Murphy et al., 1998)*
TOP-8	Treatment Outcome PTSD Scale *(Davidson and Colket, 1997)*
TRIG	Texas Revised Inventory of Grief *(Faschingbauer, 1981)*
VS	Vulnerability to the Effects of Stress *(Sheehan et al., 1990)*
Wakefield	The Wakefield Depression Questionnaire *(Snaith et al., 1971)*
WBR	Weekly Behavior Report *(Cohen and Mannarino, 1993)*

Appendix I: References

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